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Facilitated Environmental Partnering

By

Joseph J. McConnell III
Lieutenant Commander
Civil Engineer Corps
United States Navy

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ABSTRACT

This report concerns the evolution of Facilitated Environmental Partnering; of which the framework was developed in 1993 by the Naval Facilities Engineering Command, Southern Division (SOUTHDIV) in Charleston South Carolina, Environmental Protection Agency (EPA) Region IV, and the Florida Department of Environmental Protection (FDEP). This process provides a formal way of conducting environmental work within a portion of the Navy, which has produced tremendous results.

In 1995 Southern Division approached the Environmental Protection Agency (EPA) Region V concerning the successes they were obtaining using facilitated environmental partnering. In 1996 EPA Region V initiated a meeting in Chicago Illinois with the Navy, Army, Air Force, and Department of Interior for the Midwestern area of the United States. SOUTHDIV presented to the group the concept of facilitated environmental partnering. The intent was to see if there was any interest in establishing the partnering program in the Midwest area. Initially, the Army and Air Force decided to consider the matter further but eventually participated at a later time.

The Great Lakes Environmental Department participated in the meeting as the representative for the Navy's Regional Environmental Coordinator (REC). As the Navy REC, Great Lakes was responsible for all Navy Environmental Issues in a six-state area. The Great Lakes environmental department already had a close working relationship with SOUTHDIV and was aware

of the facilitated partnering program. As a result, the Navy immediately agreed to support the program and began efforts to implement it at several locations.

Glenview Naval Air Station was one of the bases within the Great Lakes Region where partnering was implemented. The base, located in Illinois, was closed in 1994 under Base Realignment and Closure (BRAC) legislation 1993. The base was placed into the partnering program in 1996. Between 1996 and 1998, the Naval Officer in Charge had left and been replaced, the Navy environmental technician had been replaced, the EFA Environmental Engineer had been removed and not replaced, the Federal EPA representative had been replaced twice, and an additional State EPA representative had been added. This type of turnover would have been destructive and difficult for the best of working relationships. The formal partnering environment fostered trust and provided the structure to keep the team moving and productive. By 1998 four years after closure and two years after implementing facilitated partnering, ninety four percent of the base had been cleaned, certified as clean, and transferred to a local government.

In contrast was FT Sheridan an Army base also located in Illinois approximately 15 miles from NAS Glenview. The base was closed in 1989 under BRAC 88. Facilitated environmental partnering was not utilized for the closure or cleanup of the base. While the specifics are slightly different from Glenview, clean up did not begin for approximately eight years after closure with the first parcel transfer nine years after

closure. Both facilities are in the same state in the same area. Environmental Partnering worked at Glenview Naval Air Station!

The process routinely converts its skeptics. It is a relatively simple and common sense way of accomplishing work. It has the potential to being incorporated in many industries or other Federal Organizations and possibly beyond the environmental scope. Through its short history, the results attained have been astounding where it was implemented.

However, the problem that exists is that there is not any consistent Navy wide program for facilitated environmental partnering. The intent of this paper is to present the program which was developed from Southern Division. The goal is to educate and make other people aware of an effective tool that they may want to investigate and possibly adapt for use in the future for their organizations.

INTRODUCTION

Until the latter part of this century, the human race as a whole had been completely ignorant as to how fragile the environment actually was and how easily it is impacted. With the birth of the Industrial Revolution and its incredible impact on the world, humanity could no longer afford to ignore the effect their actions were having on the environment.

The Navy's mission can be defined in many various ways. However, since its conception, it has always provided for America's maritime security and projected America's political will from the Seas. Throughout its history, the Navy was not concerned with how its operations affected the Environment. Unfortunately for the Navy, its organization had evolved into a highly industrial entity where its activities were of a highly industrial nature that were required to occur in ecological sensitive coastal areas.

When society began to focus on the environment, the Navy, like most industrial entities, tried to avoid the issue by ignoring it. The Federal Government is provided Sovereign Immunity in conjunction with many laws. This prevents the Government from being sued concerning potential violations. For many years the Navy claimed Sovereign Immunity as a Federal Agency concerning environmental laws and the enforcement of these laws.

Within the last twenty-five years, there has been a continual shift from this position toward a genuine concern

for the environment due to two primary reasons: The first reason is that Congress waived federal sovereign immunity in all federal environmental laws. This has resulted in the Environmental Protection Agency and State regulators being able to inspect all federal facilities and to bring about enforcement actions, if necessary. The second driving factor is that society has become more educated in the importance of the environment. This has led to a paradigm shift, which has resulted in a genuine desire of society to be good stewards of the environment.

Contrary to what one would think, once the Navy started to comply with the environmental laws, things went from bad to worse. Instead of not having any type of association, an antagonistic and distrustful relationship quickly developed between the Navy leadership and regulators. It could be argued that it was a natural progression for two entities with the same requirement (protecting the environment) intermingled with different goals. The regulators felt that the Navy was trying to do the minimum necessary to comply with the laws in order not to get caught. The Navy felt that the regulators were not satisfied with a successful environmental program. The Navy would further argue that the regulators were in fact trying to justify their existence, and were satisfied only after identifying discrepancies. Looking back, it was clearly a lose-lose situation.

HISTORY

In 1992 the Navy was experiencing a tremendous transition. They were beginning the largest infrastructure reduction in the United States history as the results of the Base Realignment and Closure (BRAC) initiatives. The Navy along with the entire Department of Defense was continuing to realize how important the environmental issues were and to understand that they would never go away. Before any property could be disposed from the DOD roles to the public, it had to be certified that the property was environmentally clean.

No one knew what an undertaking it would be to certify a piece of property to be environmentally clean. Initially the focus was on industrial areas such as ship repair depots or airports and the obvious issues associated with that type of work. In many ways these areas were the easiest to resolve. However, the scope of environmental impacts quickly expanded into unforeseen and minute areas. Issues such as traditional building materials and methods were subject to scrutiny and became major areas of concern. Examples of these problems include old construction with asbestos containing materials, lead paint, creosote preservatives, pesticides, and the destruction of wetlands in the past when they were known as just low wet weedy areas.

In the early 1990's, during the painful throws of the early BRAC, environmental work essentially stopped. Nothing constructive was being accomplished. Each party refused to

communicate except through their lawyers with threats of lawsuits and enforcement actions as the main topics. An atmosphere of total distrust existed with no immediate way to move forward in order to resolve issues.

On February 10, 1993 a meeting between Southern Division's Joe McCauley and EPA region IV's Jon Johnston was held. Both parties realized and admitted that while they had the same requirement to protect the environment, they were effectively working against each other. They felt that if both parties kept heading in the present direction all efforts would probably end in failure under the current circumstances. The time was ripe for a change in how the Navy was working with the regulators in doing environmental business.

During this meeting, both agencies realized that they shared common ground in that they were both implementing Total Quality Leadership/Management (TQL/TQM) tools. They agreed that a facilitated meeting at the management level might be step in the right direction. A mutual objective to provide a team approach to accomplish common Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) goals had begun. At this same time, Naval Facilities Engineering Command's South Western Division had implemented their own environmental partnering program utilizing TQL principles.

The first facilitated meeting was held at SOUTHDIV in Charleston in March of 1993. The process had begun. A list of items considered as possible obstacles to a successful program were generated and a follow up meeting was scheduled.

Since then, meetings have occurred regularly and have been used to continually develop the environmental partnering process. The methods developed have differed from other programs such as SOUTHWESTDIV, in that an official charter has been developed and signed by all stake holders.

What has resulted is a unified team made up of individual stakeholders. The work has been focused on base clean up where concurrence amongst team members is a requirement. There is enough trust among the members to know that their individual interests will be represented while the main goal of environmental clean up and protection is met. It has turned into a win-win situation whereby the success of the team has meant success for each team member.

DESCRIPTION OF FACILITATED ENVIRONMENTAL PARTNERING

Traditional Partnering

Partnering is a formal management process in which all parties to a project voluntarily agree at the outset to adopt a cooperative, team-based approach to project development and problem resolution to eliminate, or at least minimize, conflicts, litigation and claims. While Partnering can be applied to any working relationship, it has become a common practice on large construction projects both within and outside of Government. Agencies or owners, architect-engineer, construction managers, and building contractors and subcontractors all have their own priorities - providing a breeding ground for conflict. Partnering helps avoid unproductive `positioning' of any one or all of the parties by generating and environment of cooperation and trust. (GSA,1996)

Partnering is a process that brings key players in a project together to work as a team. The process creates an environment of trust in which the team members (known in partnering as stakeholders) communicate with one another and work together to achieve common goals. Positive leadership, customer focus, employee empowerment, and continuous process improvements are hallmarks of partnering.

In the 1980's, the United States began importing Total Quality Management principals and applying them to various industries. A part of these principals was the partnering concept. Partnering is not a new concept. It can be argued that its principals go back beyond two thousand years. However, the use of an independent facilitator to assist in productive teaming is a relatively new concept of how to do business.

In the 1980's, the Army Corps of Engineers incorporated partnering into its construction projects. The Naval

Facilities Engineering Command first incorporated partnering into two large construction projects in 1989. Since then, it has become a common feature of significant naval construction projects. Today it has evolved into the foundation for accomplishing all environmental work in the Southern Division and South West Division Regions of the Naval Facility Engineering Command.

Environmental Partnering

Environmental Partnering differs from construction partnering in its format and structure. In construction partnering, everyone has a well-defined objective that is often easily understood - such as building a bridge. Everyone's relationships are well defined and issues are often concrete and easily defined. While relationships may become strained everyone has the same goal.

Environmental work itself is nebulous. It is not uncommon to start work with a bare field, and years later, end work with a bare field. Environmental partnering evolves around unknown issues such as types of contamination, areas of contamination, effects, and possible clean up methods. The historical relationships are also different, in that all of the parties have not been working towards the exact same goal. The environmental regulators have viewed themselves as the enforcer trying to catch violators. The old paradigm is that there are good and bad parties to the circumstances.

The current environmental partnering method utilizes three tiers of teams to plan and execute environmental work.

The team's specific format will be discussed later. However, there are multiple organizations (often four) represented on each team. A facilitator is used in order to help each team to understand current conditions, identify common goals, communicate, identify necessary actions, and any thing else that is necessary to perform as a team. The facilitators are not technical, don't have a vote on technical issues, and serve only to assist in teaming skills.

It is an arrangement that can be used to oversee work very broad in scope over a large area. An example of this is environmental work on a military base. Its focus is to create enough structure to foster the development of a cohesive and trustful team but also to provide the flexibility to adequately deal with numerous unknowns previously mentioned.

A list of guidelines for project teams to use in resolving problems and issues, from the NAVFAC Guide to Partnering for Environmental Projects is provided in the following table.

Table 1.

1. Clearly define issue / problem as a team
2. Agree that agreement does not set precedent for subsequent actions
3. Present options for resolution as a team (be creative)
4. Don't let a disagreement on an issue stop other work from progressing
5. Understand basis of other team members' concern
6. Provide feedback to team after implementing solution
7. Don't jump prematurely up the chain beyond first-line supervisor

8. Allow any member to raise an issue for resolution
9. Get consensus on issue and resolution
10. Determine deadline to have problem resolved so that it does not affect project
11. Confirm that the issue/problem is not an agency policy issue
12. If issue is policy, find out how far your side can compromise
13. Work in good faith as equals
14. If team cannot resolve issues, draft minority/majority opinions and elevate to the management team (Tier 2)
15. Understand how the ultimate goal relates to the problem
16. Assess the importance of the problem/issue in the overall implementation plan
17. Make all resolutions at Tier 2 and Tier 1 informal
18. Ensure team members have ownership of their problems
19. Stick with a decision once it is made
20. Don't make the issue personal
21. Consult other team members or case studies
22. Use a facilitated team approach
23. Be open minded; carry no baggage
24. Document resolution
25. Identify stakeholders outside team and involve them as required
26. Know that Tier 2 will support team's resolution
27. Any issue that needs to be revisited should be done within 30 days
28. Use first-line supervisor's expertise as required (NAVFAC,1994)

IMPLEMENTATION

Time Required to Implement Partnering

It does not take that long to implement a strong partnering program. It is a process that grows, so not a lot of excessive up front training is required. As long as the means to obtain a facilitator are readily available, a viable partnering program can easily be established within 6 months. The steps that are recommended and currently used by the Navy in developing an environmental partnering program are listed below.

Table 2.
Recommended Steps to Develop a Facilitated Environmental Partnering Program

- Initiate the Process
- Obtain Senior Management Support
- Identify Partnering Champions
- Decide on the Participants
- Conduct the Partnering Workshop
- Create a Charter (a common goal)
- Develop a Partnering Implementation Plan
- Create a Follow-up Program
- Engage in Continuous Evaluation and Process Improvement (NAVFAC,1994)

Facilitator Requirements

Groups of people can team together very successfully without facilitated partnering. Stated differently, you don't

need facilitated partnering to have a successful team. Where the danger lies is that these successful teams can quickly fall apart and become permanently unproductive. The two most common things that incite failure are the changing of team members and very contentious issues that may carry significant personal emotions.

Facilitated environmental partnering provides the framework necessary to keep a team productive. Experience has revealed that soft skills such as listening ability, versus technical expertise, are the essential elements to successful teaming. Most people have not developed these soft skills. A facilitator helps bring out the essential skills to work as a team. As a result, the success and productivity of the team are often directly proportional to the abilities of the facilitator.

At one point in the process, the goal was to get the Tier I teams self-sufficient so that a facilitator would not be required. The results of this action were disappointing. Once teams were deemed self-sufficient and the facilitator removed, the teams often quickly digressed and became unproductive.

Management Involvement

Through trial and error, SOUTHDIV has determined that when beginning, the highest probability of success comes from starting implementation at the management/executive level and then working down towards the activity levels. When there

isn't strong management commitment to the process there appears to be a much higher chance of failure. A strong commitment from the top results in an attitude that failure is not an option - and the team members quickly become totally committed to the process.

Costs Associated with Partnering

Estimating the exact cost of implementing partnering is difficult because of the nebulous type of work executed and the difficulty in fixing firm costs to unknowns. Each situation is unique and never duplicated exactly. A list of success stories broken out by specific bases has been included at the end of this paper. Each story projects the cost without partnering and then the savings due to partnering. The Navy has provided a conservative estimate that for the cost of every $1 spent by the Navy there has been a benefit of approximately $20 saved by the Navy.

The Navy currently pays the cost associated with environmental partnering when it pertains to base clean up. The Navy says that it is part of the cost of project management.

However the Navy uses a cost sharing method for partnering when it is associated with environmental compliance. Each major entity represented shares the appropriate amount of the cost. As a result the total cost of partnering may be split three or four ways.

To implement partnering, the recommended method is to establish a Tier III or Tier II type team from Regional and State management levels. From the recommendations from these teams a Tier I team is formed.

Once the teams have been identified, there is an initial training session that occurs for 2-3 days. This training has been held for up to six teams or one hundred people simultaneously. By training multiple teams, the cost of implementation is spread out. The most common costs associated with training are the rental of the facility where the training is held, the fee for the facilitators, the manuals, overheads, the preparation of the training program itself, and then any additions such as possible personality profile testing. Exact cost is dependent upon the specifics associated with the above costs.

The Navy has utilized one contractor at a time for the facilitation of teams. Once the teams are formed and meeting, a facilitator is present at each meeting. The current cost for this is $350.00 per day with a typical meeting no longer than two days. A goal at one time was to be able to develop self-sufficient teams where a facilitator would not be necessary. As stated previously, where this was tried, it appeared not to be successful with teams regressing quickly. Currently facilitators are used at all meetings, though there is still talk of trying to use them not as often or only as needed.

The bulk of costs associated with partnering are the cost of travel and having employees solely devoted to meetings on a frequent basis. While meetings did occur before formal partnering was utilized, they were often sporadic and relatively non-productive. Partnering meetings are held as necessary and it is common to meet on a monthly basis. The team at Glenview Naval Air Station, Illinois normally met monthly. However, they met more frequently when it was productive and much less frequently as the clean up of the base was nearing completion. The location of the meeting can be rotated to help distribute the inconvenience and cost associated with traveling.

Figure 1

Process a Project Team Uses to Begin Partnering (Developed May 21, 1993)

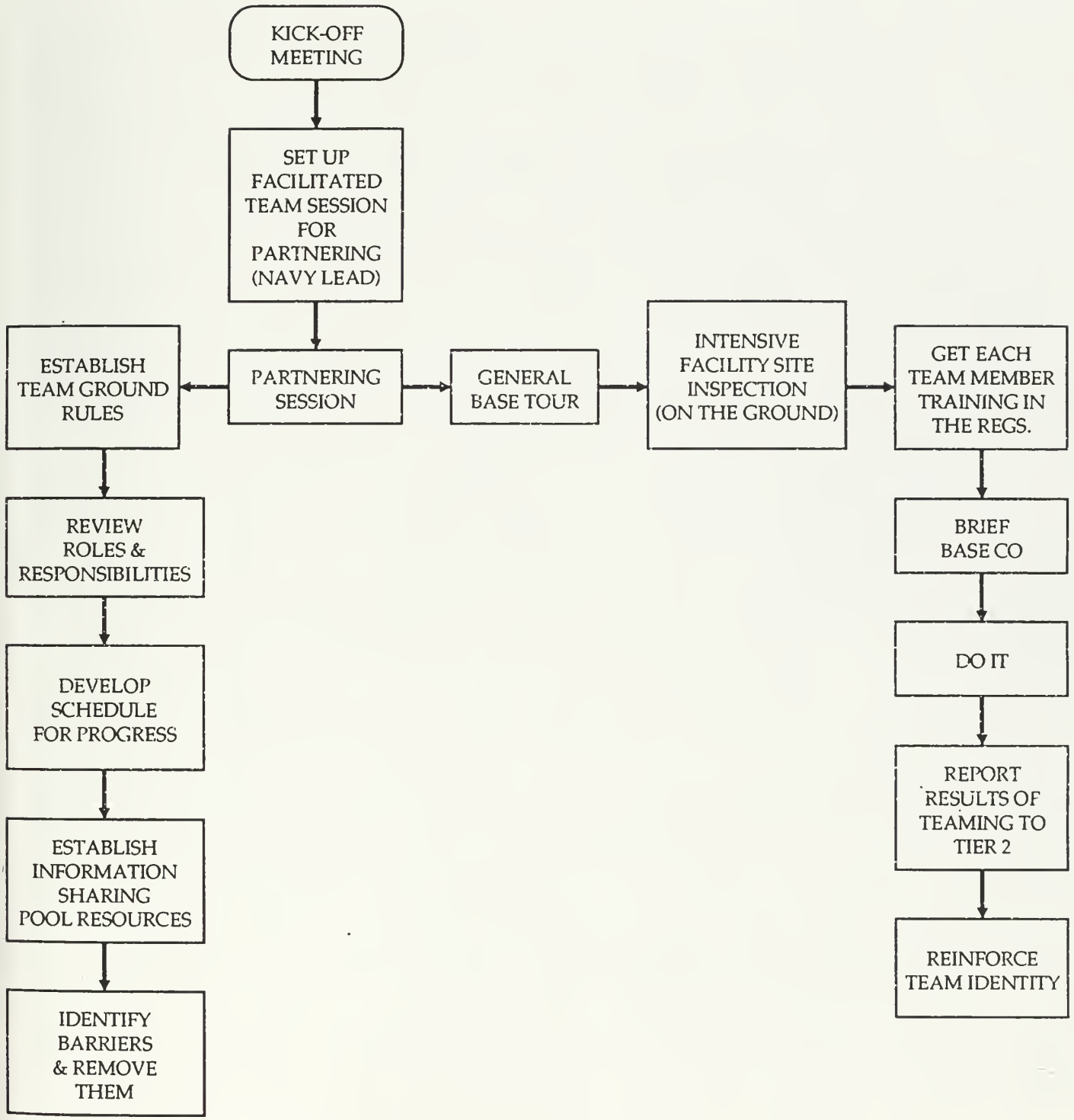

KICK-OFF MEETING
SET UP FACILITATED TEAM SESSION FOR PARTNERING (NAVY LEAD)
PARTNERING SESSION
ESTABLISH TEAM GROUND RULES
REVIEW ROLES & RESPONSIBILITIES
DEVELOP SCHEDULE FOR PROGRESS
ESTABLISH INFORMATION SHARING POOL RESOURCES
IDENTIFY BARRIERS & REMOVE THEM
GENERAL BASE TOUR
INTENSIVE FACILITY SITE INSPECTION (ON THE GROUND)
GET EACH TEAM MEMBER TRAINING IN THE REGS.
BRIEF BASE CO
DO IT
REPORT RESULTS OF TEAMING TO TIER 2
REINFORCE TEAM IDENTITY

TABLE 3.

Suggested Activities for Initial Partnering Workshops

The goals of the workshop are to open communications, develop a team spirit, establish partnering goals, develop a plan to achieve them, and gain commitment to the plan. There are a number of processes that could be used to accomplish the workshop goals. The following are only suggested steps for the process. Neither the specific exercises nor the sequence are critical. Be flexible and creative. Your ideas and your facilitator's suggestions should be incorporated into your process.

1. Strengthen interpersonal communications with exercises such as active listening/congruent sending or other communications skill-building techniques.
2. A self-examination exercise such as the utilization and discussion of the Myers-Briggs Type Indicator survey would be appropriate as the next effort.
3. Develop teamwork with specific team-building exercises. One way to start is to perform some icebreaker exercises for the participants to get to know one another. It is very important that the individuals understand group dynamics. Exercises in which the participants solve problems as individuals and then as groups are excellent for achieving this.
4. Team exercises are important to get the individuals to start thinking and working as a team. Specially designed exercises that contrast competition and cooperation are useful at this point. Note: For these exercises and all during the workshop, the participants can be divided into smaller working groups with different combinations of participating groups.
5. Define strengths and weaknesses from prior projects. The participating groups should work independently to list strengths and problems they perceive from previous jobs. Then, together they can analyze these lists and develop a list of possible problems they might face during the course of the contract. This lets them start thinking in terms of project-specific issues that they will be dealing with as a team.
6. Provide instruction on conflict management techniques. If time permits, include some exercises to reinforce the training. It is important for the team members to understand the difference between "positions" and "interests" or "values" and understand how to negotiate based on interests.
7. Develop a problem-solving strategy or methodology for the team to use. The facilitators can provide an instructional session on problem solving; the team can choose to use it, modify it, or develop their own. The team will then use the process throughout the project to deal with problems as they arise.
8. Develop trial solutions using the selected problem-solving process and the list of potential problems outlined in Step 5. The trial solutions may be only conceptual at this point, but they will serve to reinforce the team approach to solving real-life project problems and disputes.
9. Define partnership goals. As an individual exercise or, if the participants are "exercised out," as a group, develop a realistic set of goals for the partnership.
10. Execute an agreement. Using the goals developed above as a base, draw up an actual agreement for the members to sign to express their commitment. After the workshop, as a strong signal of support, have the CEOs of each organization also sign the agreement, and freely distribute copies of the final document to all members.
11. Develop an implementation plan. This is probably the most important step of the entire process. Without a realistic working plan, the goals and ideals fostered at the workshop will tend to fade with time. A plan is needed to make the partnership a living and breathing entity. Checkpoints and followup workshops, combined with the energy of the champion previously identified, will ensure its health.

A TYPICAL TEAM FORMAT

The current system utilizes a framework based upon tiers of professionally facilitated teams. EPA Region IV and VI utilizes Tier I, Tier II, and Tier III teams. While EPA region V has been able to utilize just Tier I and Tier II teams. The three standard teams will be described below.

Tier I is the Core project team at the activity level. It is the area where actual environmental work occurs and where the bang for the buck exists. At this level work is planned, executed, and reviewed. The team is given as much possible authority that is appropriate for this level, along with strong backing from Tier II teams. Tier I is empowered and expected to make decisions and come to resolutions as necessary. In general the team is not allowed to raise contentious issues unless all efforts have been used to resolve the issues. The membership of the team is usually based upon the Department of Defense Services associated with the base activity. The team can be made up of several representatives.

Table 4.
Typical Tier I Representatives

- A base activity representative
- The Engineering Field or Activity representative
- The Federal EPA Regional Project Manager
- The State EPA Regional Project Manager
- The Contractor (NAVFAC, 1994)

Tier II is a Management Team at the State Level. It is made up of multiple representatives who typically are the managers of the representatives who make up Tier I. This team is critical in that it supports Tier I. It addresses any problems that are raised from the Tier I level which are inappropriate for Tier I to address or that could not be resolved after all efforts were exhausted by Tier I. This team also continually monitors the process and attempts to try to implement improvements or innovations to the environmental partnering process.

Tier III is the Executive Level Team at the Regional Level. At this level, multiple organizations are represented such as all of the Services under the Department of Defense and all partnered States. The issues here are global in nature. However, again the focus is to support Tier II and Tier I as necessary. The partnering process is also monitored with the implementation of any necessary improvements or innovations to the environmental partnering process. In EPA region IV, South Carolina, Kentucky, Mississippi, Florida, and North Carolina are all represented.

The following list and diagram represent typical partnering participants who would be commonly found on both Tier I and Tier II teams.

Table 5

Partnering Participants

Tier 1—Members of the Core Project Team

Activity
EFD RPM
EPA RPM
State RPM
Contractor(s)
Others as needed
BRAC Environmental Coordinator (BEC) for BRAC Facilities

Tier 2—Members of the Management Team

EPA: Federal Facility Branch Chief
DOD Remedial Section Chief
DOD RPM Team Leaders (2)

STATE: Administrative-Technical Review Section
Federal Facility Coordinator

NAVY: (SOUTHDIV) Department Head
Deputy Director
IR Manager(s)

(LANTDIV) Branch Head

NAVY (ACTIVITY):
Regional Environmental Coordinator

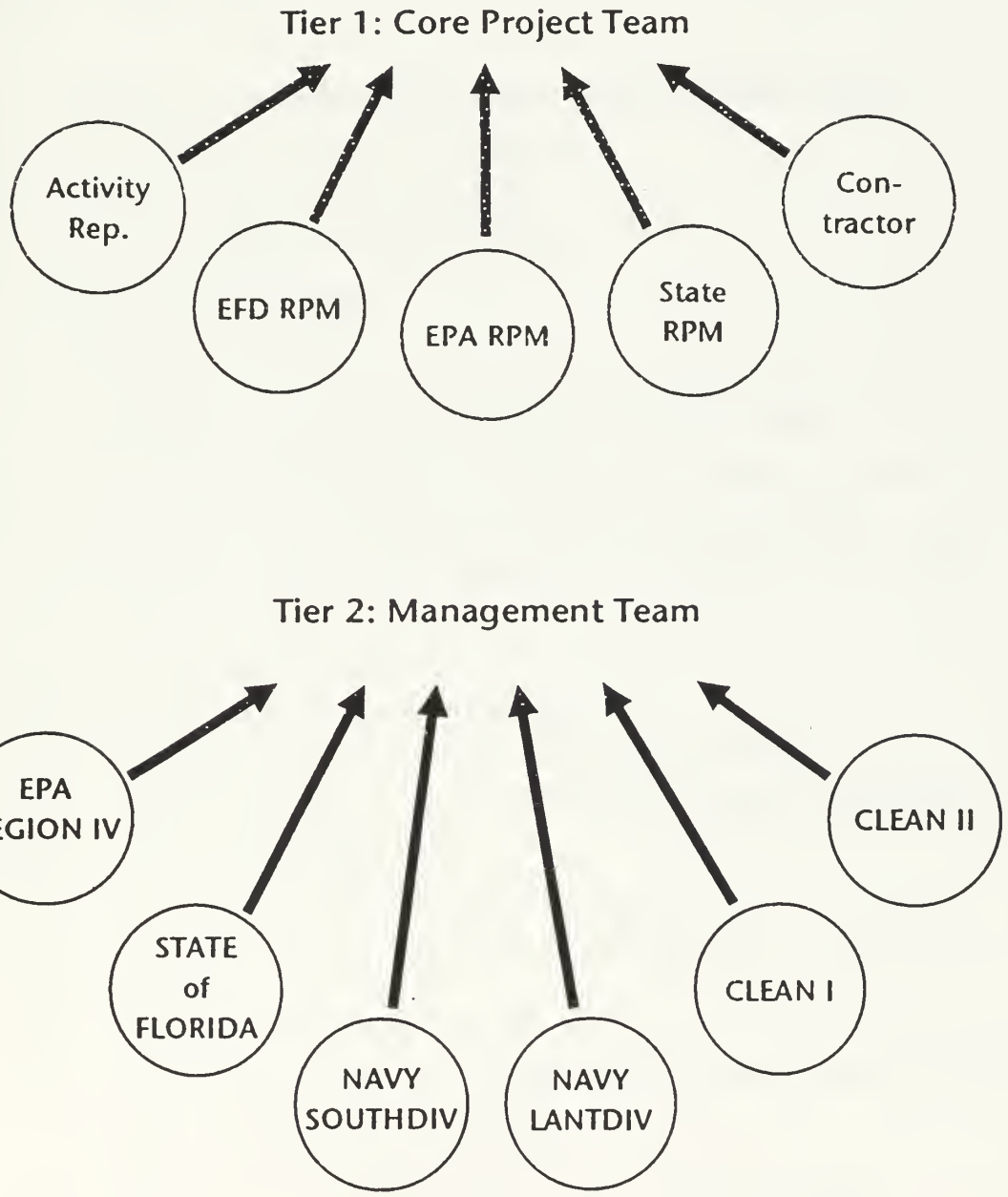
CONTRACTOR (CLEAN):
Program Manager/Principal
Technical Director

Optional Participants:

EPA RPMs and/or HQ
State RPMs
Navy RPMs/BECs
Navy Contract Representatives
Activity RPMs
Contractor Project Managers/Technical Specialists

Partnering Framework

Figure 2



RESPONSIBILITIES OF VARIOUS PARTNERING PARTICIPANTS

As stated previously, partnering is the process of creating an atmosphere where various members share a common goal. The NAVFAC Guide to Partnering for Environmental Projects provides lists of responsibilities of the various members. They are:

Table 6. Responsibilities of All Team Members

1. Identify probably remedies
2. Orient new team members
3. Help identify stakeholders
4. Formulate budget
5. Identify sites
6. Identify no-win situations and drop them
7. Maintain corporate knowledge of process
8. Listen and attempt to understand other parties' goals
9. Represent the concerns of your organization
10. Provide a dedicated member to represent the core project team
11. Attend RPM meetings
12. Host meetings as assigned
13. Actively participate in team/partnering
14. Provide approval and concurrence where required
15. Review work products
16. Share all existing information
17. Identify salary support requirements
18. Establish priorities
19. Consider stakeholder concerns
20. Be knowledgeable of innovative cleanup technologies and incorporate into plan
21. Find ways to keep work in schedule
22. Maintain regular contact with team members
23. Resolve informal disputes

24. Be knowledgeable of and maintain compliance with regulations
25. Ensure cost-effective remedies
26. Ensure protection of public health, welfare, and the environment
27. Incorporate risk management and fiscal prudence
28. Participate in preparing decision documents
29. Advise team of agency guidance and SOPs
30. Foster consistency of remediation process
31. Promote technology transfer
32. Transfer and document lessons learned
33. Continuously improve quality
34. Ensure sampling and analysis are in line with data and needs(i.e., value added) (NAVFAC, 1994)

Table 7. Responsibilities of the Activity

1. Execute community relations
2. Conduct field oversight and assist contractor when the contractor is on-site
3. Chair the Restoration Advisory Board (RAB)
4. Bring concerns of contractor organization to the team, and vice versa
5. Maintain local administrative records in repository
6. Sign decision documents, including permits
7. Identify probable land uses
8. Prevent or control new sources of contamination
9. Ensure budgetary requests are in MI system
10. Protect Natural resources
11. Be responsible for emergency response
12. Provide oversight and coordination of base mission and projects
13. Fund with O&M funds as required
14. Provide long-term maintenance
15. Identify DERA salary support
16. Keep chain of command informed to major claimant and REC (NAVFAC, 1994)

Table 8. Responsibilities of State RPM and EPA RPM

1. Coordinate and prepare comments on documents
2. Advise team members of upcoming regulatory changes to allow effective implementation of those changes
3. Identify ARARs
4. Review documents in a timely manner
5. Review regulatory compliance status and conduct enforcement
6. Assist in preparing decision documents
7. Approve/disapprove primary documents in a timely manner
8. Draft permits and agreements
9. Ensure regional consistency
10. Provide technical oversight and support
11. Resolve issues or concerns within the department or agency
12. Maintain documents
13. Assist Navy to be consistent with National Contingency Plan
14. Assist with EPA-sponsored work
15. Conduct regulatory surveys as required (RFAs)
16. Provide criteria for cleanup
17. Determine regulatory applicability
18. Represent the team to coordinate with other regulatory programs and agencies(e.g., State, county)
19. Oversee technical assistance contractors
20. Support community relations
21. Review and oversee petroleum cleanup (FDEP)
22. Participate in compiling site/facility response needs
23. Meet DSMOA commitments (FDEP)
24. Provide information into RCRIS, CERCLIS data management system
25. Review and oversee State authorized programs (FDEP)
26. Provide program and technical training
27. Attend RAB meetings

28. A-106 budgetary review
29. Provide leadership on policy issue resolution
30. Assist in resolution of concerns and issues about permits (NAVFAC, 1994)

Table 9. Responsibilities of EFD RPMs

1. Create and distribute administrative record
2. Provide contract administration
3. Manage DERA/BRAC program (budgeting)
4. Estimate government expenditures
5. Manage and direct contractor
6. Provide responsive technical support and coordinate legal support to the activity
7. Encourage activity involvement
8. Assist activity in community relations
9. Coordinate involvement of team in the budget process
10. Manage IDW
11. Solicit and respond to comments
12. Keep chain of command informed up to major claimant
13. Coordinate with other EFD RPMs
14. Keep the work on schedule
15. Have contractor prepare and distribute plans and documents
16. Implement team's decision through contractor
17. Coordinate team communication
18. Provide support (lead the effort where assigned) for regulatory agreements
19. Develop and maintain Site Management Plan
20. Determine DERA/BRAC eligibility
21. Maintain customer focus
22. Ensure compliance with NCP and ARARs
23. Author decision documents
24. Maintain execution plan
25. Respond to regulatory inquires on hazardous waste sites
26. Chair project team meetings

27. Ensure Record of Decision is implemented
28. Ensure site close out
29. Provide information to MIS, DSERTS, PCR databases
30. Review hazardous waste docket
31. Maintain consistency in overall program execution and quality of products
32. Ensure field oversight of contractor efforts in coordination with regulatory agency/community (NAVFAC, 1994)

Table 10. Responsibilities of the Contractor

1. Conduct field work and prepare work products as directed by EFD in a cost-effective, timely manner
2. Suggest technical ways to meet customer and regulator requirements
3. Advise of ways to do work cheaper/better/faster
4. Maintain cost control
5. Advise EFD RPM of schedule slippage with recommendation to get back on target, or adjust the baseline, as well as changed conditions or when assigned tasks will not meet goals
6. Ensure qualified people are on-site at all times
7. Focus work to support decision making
8. Be responsive to EFD
9. Ensure quality assessment/quality control on all products
10. Keep activity informed of conditions that affect the activity
11. Maintain access to adequate technical expertise
12. Keep team members informed of status of field work
13. Provide adequate quantity and quality of field equipment
14. Maximize use of all existing data and information
15. Be knowledgeable and willing to use latest techniques
16. Respond to changes rapidly with minimum disruption
17. Coordinate with subcontractors and Project Managers

18. Assist in planning and execution of program
19. Implement team decisions as directed by the EFD
20. Maintain site safety
21. Be knowledgeable of regulations and guidance
22. Cooperate with regulator's oversight during field work
23. Fully coordinate field work with activity prior to entering base
24. Monitor subcontractors
25. Advise team of economic and technical impacts of their recommendations (NAVFAC, 1994)

GOALS OF PARTNERING

Facilitated partnering has created a structured and institutionalized method of doing business while providing the ability to take risks, think out of the box, and try innovative solutions. Each party that participated had numerous goals and objectives that they hoped to accomplish.

Table 11.
Navy's current goals for the entire partnering process are to:

1. Build a cohesive team from the four main parties consisting of the Navy, Regulators, Contractors, and Community.
2. Foster trust and open communications between all parties.
3. Complete quality environmental projects on time, within budget, and at a reasonable profit to the contractors.
4. Resolve issues or problems and make decisions at the lowest possible working team levels.
5. Develop long term relationships that can be imported into future projects
6. Promote the open exchange and consideration of new ideas
7. Be willing to take appropriate risks in order to seek win-win solutions.
8. Create an atmosphere where each party understands the others' objectives and is genuinely interested in helping to obtain those objectives. (NAVFAC, 1994)

Table 12. Goals of Tier II

1. Develop a system to solve problems and issues quickly and informally.

2. Define acceptable risk and develop a cost-effective, timely process to manage risks and minimize adverse consequences.
3. Clarify working role of each party, including lead agency (set common priorities and targets).
4. Develop partnering plan (including execution plan).
5. Develop process for networking and exchange of lessons learned, success stories between agencies.
6. Develop innovative way to work with contractors; establish common goals. (NAVFAC, 1994)

Table 13. Expectations of the Project team

1. Work as a team to meet remediation challenges and make response to site remediation the team's highest priority.
2. Be willing to take risks to accelerate remedies.
3. Embrace the new way of doing business.
4. Achieve objectives in charter.
5. Have a basis for remedies.
6. Minimize conflict and maximize progress to remediation, but keep project moving forward even during conflicts.
7. Drop old baggage; keep no hidden agendas
8. Identify and use best team resource to accomplish goal.
9. Facilitate and assist other team members in accomplishing their goals.
10. Accept and execute roles and responsibilities.
11. Seek solutions that all team members can buy into.
12. Be self-motivated.
13. Follow the guidance provided as appropriate.
14. Share success and failure.
15. Be decisive and innovative.
16. Maintain flexibility.
17. Be professional.
18. Think long term. (NAVFAC, 1994)

Based upon the success of the program it can be surmised that a majority of the stakeholders' goals have been significantly met. It has created a situation where all of the parties felt that they had ownership of the issues. They could no longer feel capable of walking away from an issue without having an acceptable resolution. They were responsible and empowered to resolve any issues that arose.

SUCCESS STORIES

A criticism that has been made with environmental partnering is that it often it lacks metrics to judge whether it is successful or not. There is no reason for any organization to partner unless it results in some kind of value to that organization. As an attempt to define firm measurements of success the NAVFAC Guide to Partnering for Environmental Projects published the missions and measures of success for the Florida Department of Environmental Protection (FDEP), EPA Region IV, and the Navy. They are:

The mission of the FDEP is to provide oversight of Department of Defense (DOD) environmental restoration to ensure compliance and consistency with State regulations, policies, and guidance to protect the public health, environment, and natural resources of the State of Florida.

Table 14.
FDEP Measures of Success

1. Resolving disputes at RPM level
2. Number of sites that are remediated
3. Meeting commitments of DSMOA
4. Meeting commitments of FFAs
5. Performance evaluations of Federal facility coordinator, Regional Project Managers, and program administrator
6. Resolving intra-agency conflicts (e.g. Headquarters versus district, RCRA versus CERCLA)
7. Meeting commitments of Petroleum Contamination Agreements (NAVFAC, 1994)

The mission of EPA Region IV is to provide oversight of Federal Government environmental restoration to ensure compliance and consistency with regulations, guidance, and policies - so that remedies are selected and implemented in a timely and appropriate manner that is protective of human health, welfare, and environment.

Table 15.
EPA Region IV Measures of Success

1. Progress through the remedial pipeline
   - PA/SI, NFRAP, other (number of sites evaluated)
   - National Priority List promulgation
   - Duration of RI/FS;RD;RA
   - Construction starts and completions
   - Number of Records of Decisions
2. National Contingency Plan and RCRA corrective action
   - Number of removals
   - Sites remediated and deleted

The mission of the Navy is to identify, assess, characterize, and remediate contamination from releases of hazardous substances at Navy and Marine Corps activities to protect public health, welfare, and the environment, while maintaining military operational capabilities.

Table 16.
Navy Measures of Success

1. Number of remediations/removals
2. Number of PA/Sight Investigations completed
3. Number of RI/FSs completed
4. Number of Record of Decisions signed
5. Number of FFAs signed
6. Number of sites through program obligation
7. Percentage of money on remediation (NAVFAC, 1994)

There are more than 90 success stories included in appendix A, that represent the accomplishments of the facilitated partnering initiative that has occurred in U.S. Environmental Protection Agency (USEPA) Region IV and V since 1993. This initiative has evolved into the Environmental Restoration Management Alliance (ERMA), composed of Federal (USEPA Region IV and the Department of the Navy) and State agency representatives, as well as installation and contractor representatives. Since 1993, installation-specific partnering teams (Tier I teams) have been established and trained and are now operating in a facilitated teaming manner for many installations. Each of the Tier I teams has established a charter of cooperation aimed at better, cheaper, faster cleanup of their installations. By allowing teams to operate in an empowered manner, many planning, analysis, and decision making processes have been streamlined; some have been eliminated altogether. As various phases of each installation's program plan have been completed, the Tier I teams have documented their success, that is, their improvement over the old ways of doing business. Each story explains the original condition and approach as well as the results of that original approach. Additionally, it defines how partnering was applied for that phase of work, the savings realized, and the overall result achieved by the Tier I teams. A summary of the success stories is provided.

Table 17.
Summary of Success Stories Provided

Category	Result
Cost Savings	67% of projects provided defined estimated savings of $32,253,062. 29% of the remaining projects projected savings but did not estimate totals.
Time Saved	48% of examples stated timesaving ranging from 2 months to 22 years.
New Technology	9% of the examples implemented new technology
Changes to work method	22% of the examples developed a new method of accomplishing work
Developing & agreeing on a common decision	69% of the examples successes were credited to some sort of development and then agreement upon a common decision
Future Potential	37% of the success story examples noted methods which could be used in the future for further savings.

EXPANSION TO OTHER ORGANIZATIONS OR REGIONS

When it has been used, the facilitated environmental process has proven to be a valuable tool for the Navy. Part of its success is that it is a flexible method of communicating and teaming that can be applied to an entire and extensive process - such as environmental cleanup. It doesn't have to be limited to a specific project or something with a narrow focus.

For years attempts have been made to change the CERCLA/RCRA process, such as institutional controls. They have all failed. In 1996 Ms. Virginia Wetherell, the Head of the Florida Department of Environmental Protection (FDEP), began challenging her agency to shift their paradigm of success concerning environmental compliance. Historically, they had viewed themselves as successful only when they had identified discrepancies. Ms. Wetherell challenged her agency to think that if a discrepancy was identified, it meant failure because the environment had been harmed. She argued that true success should be the preservation of the environment not the identification of harm to the environment. This opened the door to change.

Southern Division and EPA Region IV took advantage of this open door, and have just again broken historical ground by implementing the partnering process concerning Institutional Controls. This expands the partnering process

from an environmental clean up tool, into a tool for the CERCLA/RCRA arena of enforcement.

This alternative use of partnering has already led to a new agreement that allows the Government to meet other than residential standards in clean up and allows different types of clean up methods. In turn, it allows the EPA the ability to implement enforcement actions if necessary. The Naval Facilities Jacksonville, Mayport, Cecil Field, and Key West have entered into the new program. A projected immediate twelve million-dollar savings for the four facilities alone was realized from this new implementation. As incredible as it sounds, there is a potential for hundreds of millions of dollars savings nation wide. This never would have occurred without the use of facilitated environmental partnering format.

Recently SOUTHDIV was contacted and asked to present the concept of facilitated partnering to the Central Intelligence Agency (CIA). There are many people who will argue that this method is so simple that it borders on common sense, yet it so powerful it can be used by any group of organizations that have a common requirement to satisfy.

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

Mr. McCauley of SOUTHDIV has been significantly involved with this process since 1993. His theory is that it is human instinct to work together. Over the course of human history people have had to band together and work toward common goals in order to survive. Partnering taps into this instinct. This concept makes a lot of sense.

The partnering process is far from perfect. It has come a long way, evolving from one meeting where Total Quality Management/Leadership principals were used in an effort to communicate effectively and clearly. Where the program will end up is anyone's guess. It will continue to evolve and the success that it has obtained ensures its survival. It has matured to a point where it is no longer personality driven but a way of conducting business.

Naval Facilities Engineering Command is the headquarters for the Civil Engineer Corps and as a result is the lead for the majority of all Civil Engineer Corps Policies. They have declared partnering as the official way of doing environmental work. However, a Navy wide policy or method has not been institutionalized. What occurs at Southern Division is much different than that at South Western Division. In fact the process at EPA Region V in the Midwest was modeled directly from EPA Region IV's three-tier format at Charleston. It quickly evolved into an effective two-tier format.

The advantage of this is that the flexibility allows new innovations and the ability to tailor the program to make it effective for the situation. However, it can also create confusion, inconsistencies within the Navy, and may hinder the implementation of an effective partnering program at some other naval organizations.

The exciting thing about this process is that even without a formal policy, it works and it is flexible. All that it really requires is a firm commitment from its participants (where the management buy in to the process is the cornerstone of its success). Once this has occurred and with the minimum effort of an initial training session and routine meetings, it is easily implemented and adapted to virtually any circumstance.

Recommendations

Partnering will drive itself. The success listed within demonstrates its real potential. The challenge is to provide an atmosphere that assists the utilization and further development of the process. Two recommendations are being made. First, NAVFAC as the leadership for the Civil Engineer Corps should establish, publish, implement, and then routinely update a framework of how to use facilitated environmental partnering. The framework should be consistent and useful Navy wide. An example would be the use of written charters to establish common goals. This framework should be flexible and if something is shown not to be value added, then it should be

removed. Quality not quantity should be the goal of this effort.

Secondly, all of the activities should attempt to establish firm metrics to measure success and more importantly failure. NAVFAC should also publish this information routinely. There are a lot of lessons to be learned with this new process. The dissemination of this information would be invaluable in preventing failures and promulgating successes.

Points of Contact

Joe McCauley
Deputy Director Environment
Southern Division,
Naval Facilities Engineering Command
PO Box 190010
2155 Eagle Drive
South Carolina, 29419-9010
843-820-5500

Jon Johnston
EPA Region IV
61 Forsyth St, South West
Atlanta Georgia, 30303
404-562-8527

Jerry Wallmeyer, Code N4
COMNAVBASE Jacksonville
Box 102
Naval Air Station
Jacksonville, Florida, 32212-0102
904-542-5216

Eric Nuzie
Florida Department of Environmental Protection
Twin Towers Office Building
2600 Blair Stone Rd
Tallahassee Florida, 32399-2400

Mark Schultz, Code N45
Assistant Chief of Staff, Environmental
BLD 1-A, 201 Decatur Avenue
Naval Training Center
Great Lakes Illinois, 60088-5600
847-688-5999 ext. 40

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  - Quelling a Media Scare
  - Addressing Potential Groundwater Contamination
  - Weekly Construction/Remediation Field Meetings
  - On Schedule with an Accelerated Property Transfer
  - Building 3 PCB Storage Are
  - Two Day Turnaround on Utility Work Plan Approval
    Ability to get Partial Site Assessment Data

NAVAL AIR STATION CECIL FIELD

Jacksonville, Florida

Site 17, Remedial Alternative

Original Conditions

The groundwater at Site 17 is classified as G-II (potential potable aquifer). Contamination exceeds Federal maximum contaminant levels and State applicable or relevant and appropriate requirements.

Original Approach

Restoration of the aquifer would have likely taken place by pumping and treating the groundwater contamination.

Results of Original Approach

Pumping and treating of the groundwater at Site 17 would have cost approximately $1,6000,000 (from the feasibility study), or possibly as high as $2,000,000, and would have taken approximately 6 years to complete.

How Partnering Was Applied

The team recognized that natural processes were at work degrading the contamination because contaminant levels actually measured were much lower than those predicted from model results. Furthermore, the remedial investigation concluded there were no direct pathways for the groundwater discharging to surface waters or wetlands. The team investigated the monitoring parameters utilized by the U.S. Environmental Protection Agency Kerr Labs and Air Force Center for Environmental Excellence to demonstrate the effectiveness of intrinsic bioremediation and determined this would be a cost-effective remedial alternative.

Savings

The estimated cost for implementing the Record of Decision at Site 17 is $116,000 and it will take approximately 15 years to remediate the site. Cost saving between intrinsic bioremediation and a typical pump-and-treat alternative is approximately $1,484,000.

Overall Results

The team was cognizant of cost-effective remediation technologies and strategies and used their knowledge and their partnering initiative to select a cleanup technology that is both protective of human health and the environment and more cost effective.

Naval Air Station Cecil Field

Jacksonville, Florida

Use Of Direct-Push Technology

Original Conditions

Groundwater plumes exist at many of the hazardous waste and petroleum sites at Naval Air Station Cecil Field.

Original Approach

A limited number of wells were installed in the assessment phase in hopes of fully delineating the horizontal and vertical extent of groundwater contamination.

Results of Original Approach

Groundwater plumes were rarely fully defined and additional monitoring wells were often needed, requiring additional field mobilization costs and lost time.

How Partnering Was Applied

The team incorporated the use of direct-push technology (Aquaprobe and Geoprobe) at Sites 3, 5, 7, 8, 16, and 17, the North Fuel Farm, and the Base Realignment and Closure (BRAC) flightline investigation to reduce the number of monitoring wells required and to better locate those that were actually installed.

Savings

Time and dollars were saved by completing the field investigation in one field mobilization instead of the usual two or three trips. In addition, the need for the number of intermediate and deep monitoring wells was reduced from 40 to 27. The direct savings amount at the North Fuel Farm was $91,000. Additional savings projected for Site 3, 7, 8 and 16 and the BRAC flightline investigation are conservatively estimated to be over $500,000.

Overall Results

The team was cognizant of cost-effective remediation technologies and strategies and used their knowledge and their partnering initiative to select a cleanup technology that is both protective of human health and the environment and more cost effective.

NAVAL AIR STATION CECIL FIELD

Jacksonville, Florida

Defense Reutilization and Marketing Office Investigation

Original Conditions

The Defense Reutilization and Marketing Office (DRMO) at Cecil Field was identified as a site with potential contamination.

Original Approach

The investigation of the site would have followed the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) process and a draft remedial investigation (RI) workplan would have been required to assess the potential contamination at the site.

Results of Original Approach

Documents including an RI/Feasibility Study (FS), Baseline Risk Assessment (BRA), Proposed Plan, and Record of Decision (ROD) would have been submitted and the site closed out after minor remedial action.

How Partnering Was Applied

The team performed an assessment of the site under their Base Realignment and Closure Gray Site Investigation (GSI) program in lieu of going straight to an RI workplan. A Sampling Analysis Outline (one-page document) was prepared and implemented to assess the site contamination.

The GSI assessment process was designed by the team to quickly and cost effectively address potential contamination at their 277 identified gray sites. One sample is taken inside the suspected area of contamination, and one is taken outside to attempt to define the chemicals of concern and the potential horizontal contamination. The objective of the process is to quickly identify sites that can be remediated using a removal action and those that must be folded into the full CERCLA program.

Savings

The sample results under the GSI process proved that the contamination levels at the DRMO site were below appropriate cleanup levels, warranting no further investigation. This strategy saved approximately $700,000: the difference between the cost of reaching the same conclusion by following the CERCLA process (developing an RI/FS/BRA, Proposed Plan, and No Further Action ROD) and that of the GSI process with only a limited number of samples and a one- or two-page closure report.

Overall Results

The cost savings of not conducting an RI at the DRMO site was significant. Since our cleanup objectives were met quicker and at much less cost, the team has aggressively implemented the strategy at 10 additional sites. Cost savings to date attributable to use of the GSI process are estimated to be well over $2,000,000, assuming only $200,000 savings per site.

NAVAL AIR STATION CECIL FIELD

Jacksonville, Florida

Dynamic Workplans

Original Conditions

The horizontal and vertical extent of groundwater plumes and surface and subsurface soil needed to be defined during remedial investigations and contamination assessments.

Original Approach

Monitoring well surface and subsurface soil locations were proposed in draft remedial investigation (RI) workplans, and then Florida Department of Environmental Protection, U.S. Environmental Protection Agency, and the Navy would comment on their locations. Locations were often changed and/or sampling locations were added.

Results of Original Approach

Delays in the investigation, report submittal, and ultimate site remediation were a normal part of the process. Much of the delay was due to the long review times (normally 60 days) and the need for additional data to fully define the contamination. Once the additional data were provided, the review process began anew. Multiple mobilizations of field crews were the norm; Site Management Plan dates were not met, ultimately leading to formal Dispute Resolutions; and sites were going to Record of Decision at a glacial pace.

How Partnering Was Applied

Data were submitted for review to determine if contamination was fully delineated during the screening phase of our investigations. Confirmatory sample locations were then proposed and agreed upon during a teleconference or team meeting. Ultimately, the final RI Workplan for Operable Units 3, 4, 5, and 6 stated that sampling locations will be determined and approved by the team based on real-time data being collected in the field.

Savings

Workplan approval was achieved during a teleconference or at a team meeting in a matter of hours or days instead of the normal months or years for an RI workplan. The approach allowed the field crews to go straight from the screening phase to the confirmatory phase without demobilization. Ultimately, this process has expedited our investigation and has reduced the time to complete the RI from 36 months to 16-18 months.

This concept was initiated during the investigation of Operable Unit 2 (Sites 5 and 17) and has been incorporated into the investigations at Sites 3, 4, 6, 7, 8, 10, 11, 14, 15, and 16. Total savings are estimated to be at least $1,000,000.

Overall Results

By using the dynamic workplan approach, lengthy document review and approval delays have been all but eliminated, resulting in substantial cost savings.

NAVAL AIR STATION CECIL FIELD

Jacksonville, Florida

Operable Unit 2, Remedial Alternative

Original Conditions

The Old and Recent Landfills, Site 1 and 2, respectively, of Operable Unit 2 at Naval Air Station Cecil Field were investigated under Comprehensive Environmental Response, Compensation, and Liability Act.

Original Approach

The results of the investigations determined that the landfills had impacted a drainage feature adjacent to Site 2.

Results of Original Approach

The most conservative source control measure to eliminate the contaminant threat was site closure and capping ($4,465,000), along with a risk reduction alternative of treating the surface water and sediment ($1,951,100). The total estimated cost of the conventional approach was $6,501,700.

How Partnering Was Applied

The team concluded that since there was no immanent threat to human health from the landfills, the cost of a cap could not be justified. The team also concluded that it would be cheaper to mitigate the loss of habitat in the small drainage area adjacent to the site than to treat surface water and sediment. A team approach was used that focused on our overriding goal of fast-track cleanup to facilitate reuse. Since we have no potential reuse for the landfill, a choice was made to use the most cost-effective measure possible to meet the environmental cleanup requirements.

Savings

Site closure and monitoring was determined to cost $261,300, thus saving $5,289,100 over the more costly site closure and capping alternative. The biomonitoring risk reduction alternative was estimated to cost $266,400, thus saving $1,684,700. The total cost saving at this site is $5,973,800 minus the cost of any minor mitigation that may be required.

Overall Results

The significant cost savings, almost $6,000,000, and the full support by the Restoration Advisory Board of our preferred alternative have given the team the assurance that the community will accept a Monitoring Only proposal at a Superfund landfill site. Furthermore, by fully demonstrating community acceptance at this landfill site, the team has been able to move forward more aggressively with additional cost-saving alternatives at subsequent sites that have gone to Record of Decision.

Naval Air Station Cecil Field
Jacksonville, Florida
South Fuel Farm Contamination Assessment

Original Conditions

The horizontal and vertical extent of a groundwater plume and excessively contaminated soil, as defined by Chapter 62-770 Florida Administrative Code, needed to be defined during the contamination assessment at the South Fuel Farm.

Original Approach

Monitoring wells and soil borings would have been installed and a Contamination Assessment Report (CAR) submitted for regulatory review.

Results of Original Approach

CARs were rarely approved by Florida Department of Environmental Protection, with the most comments pertaining to the lack of delineation of the horizontal and vertical extent of contamination. Additional monitoring well samples and/or soil borings would normally need to be collected and added to the investigation and a CAR addendum submitted. This inevitably would lead to lengthy delays in the ultimate remediation of a site. In fact, the tank program was moving at a similar pace to the formal Comprehensive Environmental Response, Compensation, and Liability Act process.

How Partnering Was Applied

The petroleum cleanup program was brought into the partnering forum. The team became intimately involved in the scoping and data review process, prior to the formal submittal of a CAR. Soil data were presented to the team for review along with proposed monitoring well locations. The team concurred that the horizontal and vertical extent of soil contamination was fully defined and determined that 13 of the proposed wells (3 deep and 2 shallow) were not warranted. The entire contamination assessment was conducted and the CAR submitted and approved within 10 months. Furthermore, the Remedial Action Plan was developed and submitted within 1 month.

Savings

The cost saving from the elimination of well installation and sampling costs was approximately $40,000. Avoidance of the requirement to develop a CAR addendum saved an additional $30,000. Total cost savings were $70,000.

Overall Results

By implementing partnering on the petroleum cleanup program, the team submitted a CAR that was approved the first time it was submitted. The entire investigation was expedited, saving field and review time as well as salary and support dollars. The team will continue to implement this process on all the remaining CARs and remedial action plans that will be implemented at Naval Air Station Cecil Field.

Naval Air Station Cecil Field

Jacksonville, Florida

Site 5, Windrow Sampling Reduction

Original Conditions

Windrows in the biopad at Site 5 were being sampled to determine when the 50 parts per million (ppm) cleanup level of total recoverable petroleum hydrocarbons (TRPH) was reached.

Original Approach

All 16 windrows in the biopad were being sampled weekly for TRPH.

Results of Original Approach

Even though we were a long way from reaching our cleanup goal, the team was being provided unnecessary data and a bill for a lot of lab costs.

How Partnering Was Applied

The team revised the sampling process to require that only one windrow be sampled. The same windrow would be tracked until the sample results indicated that cleanup goals had been reached. Once the 50 ppm level was reached, the remaining windrows would be sampled to confirm remediation goals had been met throughout the biocell.

Savings

Total savings over the 2-year project will be $177,000.

Overall Results

The team realized a substantial cost savings with absolutely no loss in site control or loss in data needed to track the treatment parameters.

Naval Air Station Cecil Field
Jacksonville, Florida
Meeting Logistics

Original Conditions

Lack of sufficient travel funds, disputes over where meetings should be held, and constant difficulty in obtaining conference space were ongoing problems.

Original Approach

Meeting arrangements typically included rotation of meeting locations among team member home towns, juggling locations at the last minute to reflect travel funding problems, lack of references available at meeting locations, and overall high cost and dissatisfaction with travel arrangements.

Results of Original Approach

Inefficient meetings, lost time, and overall high cost were the usual outcomes.

How Partnering Was Applied

The team agreed to hold all meetings at Naval Air Station (NAS) Cecil Field during the same week as our regularly scheduled Restoration Advisory Board (RAB) meeting; procured Base Realignment and Closure cleanup team (BCT) office space in empty base housing; staffed our conference room with a copy of all investigative documents and other appropriate reference materials; obtained an agreement with the base commanding officer to permit entire team and support staff, including contractors, to stay in the Bachelor Officers Quarters (BOQ); and implemented a drive/no fly policy from the Navy and Tallahassee to Cecil Field (when feasible).

Savings

Direct savings include the difference between hotel and BOQ costs ($50-100/night versus $8/night); conference room costs (up to $150/day); and the difference between rental car and plane fare costs for all members except U.S. Environmental Protection Agency (i.e., a minimum of $3,000 per trip saving).

Conservatively, assuming that NAS Cecil Field would be the meeting location only 1 out of every 6 trips, 10 people per trip, and assuming the team would make 20 week-long trips per year, the total estimated annual saving by using the NAS Cecil Field BCT office for all meetings and consolidating meeting times during RAB meeting weeks is $49,062.

Overall Results

In addition to the identified direct travel cost savings, there are many intangible benefits associated with meeting in the same location. Team members identify with it as their "home away from home" and take more ownership of the cleanup program. The drudgery of carrying catalog cases of reference documents is eliminated as the BCT office is fully stocked with all references and reports.

NAVAL AIR STATION CECIL FIELD

Jacksonville, Florida

Site 11, Reduced Remedial Investigation

Original Conditions

A full remedial investigation and feasibility study and baseline risk assessment was planned for Site 11, an 11-acre area used for the disposal of pesticides, fungicides, and herbicide containers. Based on initial screening data, an interim Record of Decision (IROD) for removal of the buried containers was proposed.

Original Approach

Sampling was to be conducted in two stages. First, a broad preliminary assessment of the nature and extent of contamination was performed, followed by extensive confirmatory sampling over the entire 11 acres.

Results of Original Approach

The workplan for the assessment phase was approved. The IROD was completed to remove the drums and contaminated soil.

How Partnering Was Applied

After the removal action was completed and the initial screening data were analyzed, the team concluded that the number of confirmatory samples could be reduced substantially over that approved in the workplan (the contamination was localized in the burial pits).

Savings

The scope of the original tasking was reduced by $200,000 in confirmatory sampling costs. Additional labor costs will also accrue because of the shortened study time.

Overall Results

The workplan was modified at a substantial cost savings, and only the data needed to make an informed cleanup decision were collected.

NAVAL AIR STATION CECIL FIELD
Jacksonville, Florida
Records of Decision

Original Conditions

The Navy and the regulatory agencies were in formal dispute due to schedule disagreements. All work at Naval Air Station (NAS) Cecil Field was at a standstill for over a year.

Original Approach

The original cleanup approach was to implement the remedial investigation and feasibility study (RI/FS) process in series; one site was to be completed before starting work on another.

Results of Original Approach

The timeframe to complete an investigation and reach a Record of Decision (ROD) was around 4 to 5 years per site. Cecil has 18 Installation Restoration (IR) sites.

How Partnering Was Applied

Definite schedules were established during the dispute negotiations along with requirements to implement four interim Records of Decision (IRODs). A team was assigned to participate in a new "partnering" process to ensure that the aggressive schedule was met. The new partnering team, boosted by the "fast-track cleanup" charge from Base Realignment and Closure III, quickly assumed control of its own destiny. RI/FS times were chopped from 4 years down to as low as 14 months. The use of focused feasibility studies was introduced. Four IRODs were issued in 1 year along with two RODs. Both time and money were saved at all stages of the cleanup process.

Savings

There is really no way to develop an adequate estimate of the savings due to the partnering initiatives applied to the Comprehensive Environmental Response, Compensation, and Liability Act process at NAS Cecil Field. Conservatively, using a direct-time reduction (2 years per ROD), one could assume a savings of about $250,000 per ROD and $100,000 per IROD. Total estimated saving to date is $900,000.

Overall Results

IRODs were completed at four sites. RODs were signed at two sites, and another is scheduled this fiscal year. Timeframes for completion of an RI/FS were reduced by at least 2 years. Technology selection will focus more on the intrinsic side because of the trust among team members and the public.

NAVAL AIR STATION CECIL FIELD
Jacksonville, Florida
Basewide Studies

Original Conditions

Sites are studied individually even though media such as groundwater follow no boundaries. The approach was changed to study groups of sites and systems as a whole in lieu of studying them individually.

Original Approach

Sites with contaminated groundwater were typically studied individually for the effects on the surrounding ecological systems. However, this resulted in a fragmented picture of what was actually going on and created many data gaps between sites. These data gaps had the potential for missing important clues when researchers began trying to locate sources of contamination.

Results of Original Approach

This approach left too many questions unanswered and often resulted in duplication and overlapping of studies.

How Partnering Was Applied

Through development of trust between the Navy, including its contractors, and the regulatory agencies, the investigative approach was changed to look at the big picture (i.e., a basewide approach) in an attempt to transfer individual sites within the study area. The following systems were agreed upon to be studies as basewide systems in lieu of individual, controlled sites: the entire basewide ecological system, groundwater under the flightline including industrial buildings along the flightline, the basewide stormwater system, and the flightline outfalls. Using this method, the system is studied as a whole, thus eliminating many of the data gaps and preventing duplication of effort at many of the individual sites.

Savings

Obviously, it would be impossible to accurately quantify the cost savings of this initiative. However, we are sure we have saved at least $200,000 associated with the reduction of wells required (25 percent reduction). Some Base Realignment and Closure teams install a well at every building to ensure no groundwater contamination. If we gauged our initiative against this protocol, our savings would be over $1 million.

Overall Results

This approach not only has saved dollars for the project, it has also resulted in a better product for those involved in the environmental cleanup decision-making process. We are more confident that we have not missed a plume somewhere out there.

NAVAL AIR STATION CECIL FIELD
Jacksonville, Florida
Buy-In Prior to Document Preparation

Original Conditions

Documents are prepared and then sent to the regulatory agencies for review. This starts a lengthy commenting and resubmittal process that consists of 45-day review periods for each draft, draft final, and final document.

Original Approach

The over-the-wall approach of doing business was very cumbersome and presented difficulty for the contractor preparing the documents. The contractor would essentially develop the draft document in a vacuum and then send it out for agency review. The agencies would typically have numerous comments that often required the draft document to be rewritten several times.

Results of Original Approach

This method of document preparation and review was not only expensive, but it also slowed down the remediation of sites.

How Partnering Was Applied

With the aid of partnering, a more cooperative method of document preparation and review was implemented. Instead of the contractor developing the draft document in a vacuum, the team would meet and establish a protocol for the document's contents and format up-front prior to the document's preparation. This streamlined the review process for all parties involved and resulted in the elimination of the draft final submittal. The final document review is now no more than a single meeting explaining the changes made to incorporate the comments received on the draft submittal.

Savings

Our team submitted a combination of 44 primary and secondary documents in 1994 alone, with savings of $50,000 for each primary document and $10,000 for secondary documents.

Overall Results

This new method of obtaining up-front input and buy-in of a document's contents and format results not only in monetary savings, but gets to the real job of cleanup much quicker.

Naval Air Station Cecil Field

Jacksonville, Florida

Global Positioning Systems Well Locations

Original Conditions

All soil sample and well location coordinates were located by a registered surveyor for tracking purposes and placement onto maps.

Original Approach

The surveying of sampling and well locations by a registered land surveyor is expensive, considering a daily rate of $1,000 per day and the number of soil samples and well locations required to completely characterize an entire naval base. Each soil sample or boring would have its X and Y coordinates surveyed in by a registered surveying crew. Additionally, all wells would require their X, Y, and Z coordinates to be surveyed in.

Results of Original Approach

This approach of using a registered surveyor for each sample is expensive to the overall cost of the field program.

How Partnering Was Applied

Through the building of trust in a partnering atmosphere, empowered team members concurred with the proposal to use Global Positioning System (GPS) technology. With the use of a hand-held GPS unit, the coordinates of the samples can be taken simultaneously during the sampling process by the field crew, thus eliminating the need of the surveyor. Coordinate accuracy meets the accuracy requirements for the need.

Savings

Savings over the past year alone have exceeded $100,000. We expect approximately $500,000 over the life of the project.

Overall Results

Use of GPS has enhanced the fast-track process by freeing up more dollars for remediation. Coordinate data are also immediately available without delay.

Naval Air Station Cecil Field

Jacksonville, Florida

Keeping Gray Sites Out of the Comprehensive Environmental Response, Compensation, and Liability Act Process

Original Conditions

Sites where known or potential releases had occurred were often slated to be investigated under the Installation Restoration Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) program.

Original Approach

If a CERCLA approach had been adopted for the Base Realignment and Closure gray site remediation program, the process would have required the following: agency approval of the workplan, a remedial investigation, a baseline risk assessment, a feasibility study, Proposed Plan, 30-day public comment period, and finally a Record of Decision. Considering the time and expense to prepare all those documents and the associated document review times, each project could take 2 years or more per site, with very high costs. Compound that by approximately 270 gray sites at Cecil Field, and one can see that CERCLA is cost prohibitive.

Results of Original Approach

Results of this type of approach to gray site remediation would have resulted in property being tied up in the environmental cleanup process for a very long time. Costs would have been prohibitive.

How Partnering Was Applied

Through partnering, team members were convinced that gray sites could be investigated faster and cheaper without loss of quality by doing a much less in-depth investigation program. The following gray sites investigation process was implemented:

1. make a site visit to all gray sites in the environmental baseline survey to determine that the problem still exists;
2. prepare a four-page workplan outlining the sampling strategy and locations;
3. take minimum samples (typically two), one in the hot spot and one farther out where it is anticipated to be clean;
4. compare analyticals to risk-based concentrations, Florida Soil Cleanup Goals, maximum contaminant levels, etc., and compile and present the results to the partnering team during a meeting; and
5. present a recommendation for remediation during the same meeting and obtain concurrence.

This process involves minimum time to prepare workplans, and there is no review involved since results are presented in meetings and consensus is reached at that time.

(continued on page 2)

Naval Air Station Cecil Field

Jacksonville, Florida

Reduction of Quality Assurance Sampling

Original Conditions

Quality assurance (QA) protocols in sampling data were cumbersome, expensive, and provided little, if any, additional value.

Original Approach

The original QA approach was to follow the Naval Energy and Environmental Support Activity (NEESA) guidance. This approach was designed to create lab results that were defensible in a court of law. Typical NEESA QA data contained

- 100 percent Level D data validation,
- 1 rinsate blank per site per day,
- 1 field blank per source per day, and
- 1 trip blank per 10 samples.

Results of Original Approach

The NEESA protocol created a cumbersome trail of paper, was time consuming for field crew compliance, and resulted in high analytical costs.

How Partnering Was Applied

The following reduced QA sampling protocol was agreed to by the team through the establishment of trust between the Navy, regulators, and contractors:

- elimination of rinsate, field, and trip blanks from the Base Realignment and Closure program
- elimination of rinsate and trip blanks from the Installation Restoration (IR) program
- reduced frequency of the field blanks in the IR program
- reduced data quality levels from D to C
- elimination of 100 percent of formal offsite data validation in favor of qualified in-house validation.

Savings

Savings were estimated to be in excess of $1,000,000 by project completion.

Overall Results

The results of this success story not only include substantial savings in money for the Cecil Field project; it is also anticipated to help accelerate the movement from an atmosphere where defensible data are required to an atmosphere of trust and cooperation among the agencies.

Naval Air Station Cecil Field
Jacksonville, Florida
Water Disposal at Site 5

Original Conditions

Accumulated rainwater within the bermed biotreatment pad at Site 5 was required to be treated prior to discharge. Analytical results showed that even though the water was in contact with contaminated media, it still met drinking water standards after being filtered through the sand filter in the biopad. The State, however, still required offsite disposal to prevent impacts to the adjacent trichloroethene (TCE) plume.

Original Approach

The original approach included transport of the water to the wastewater treatment plant for disposal. This approach at other sites had created problems with plant operations due to high suspended particles in the water. Procurement of other types of portable treatment units was then required.

Results of Original Approach

Water transportation and treatment was costly and time consuming. During conditions of heavy rain events, standing water would interfere with the treatment process, often causing shutdowns and delays. A means to quickly remove and discharge water from the biocell was required.

How Partnering Was Applied

The team held a meeting to discuss the various options and cost impact on the project. The eventual decision was driven by practical and common sense evaluation of all the alternatives and impacts. The team reached a decision to discharge overboard when appropriate sample results met surface water quality standards based on a more thorough analysis of potential impacts to the TCE plume adjacent to the pad at Site 5.

Savings

Water disposal costs for Site 5 were at least $500,000 for fiscal year 1995. Since the biocell will be operational for at least 2 years, anticipated savings are at least $1,000,000.

Overall Results

Not only has the partnering decision reduced operational costs and eliminated much of the downtime, the decision proves that input of additional scientific data can break a stalemate when partnering is applied correctly.

Naval Air Station Jacksonville

Jacksonville, Florida

Baseline Risk Assessment Review for Operable Unit 1

Original Condition

Review of the baseline risk assessment document for Operable Unit 1 was expected to proceed according to normal requirements and timelines.

Original Approach

The project called for a 60-day review cycle of the baseline risk assessment.

Results of Original Approach

Results would be a longer review process than was actually necessary.

How Partnering Was Applied

The partnering team chose the novel approach of the on-board review of the document. This process called for assembling both remedial project managers and their technical support staff to review the document at a two-to-three-day meeting.

Savings Realized

By accomplishing the review of the document in such a short amount of time, schedules and their associated costs would be substantially reduced.

Overall Results

The process has moved toward the Record of Decision approximately 2 months earlier than anticipated.

NAVAL AIR STATION JACKSONVILLE
Jacksonville, Florida
Decision Model Processing of Site 42

Original Condition

Site 42 was available for remedial action consideration.

Original Approach

Normal assessment and negotiation cycles would prevail.

Results of Original Approach

- Additional funding would not have been available.
- Purchase of soil and grass cover for the site would have incurred 4 to 6 weeks in award delays due to lack of funds.
- Thermal treatment of soil was originally put on hold for 1 or 2 years.
- Actual treatment would have required 6 to 8 weeks to put into action.

How Partnering Was Applied

Using the decision model, the partnering team identified needed resources among partners and streamlined decisions for how to proceed and use the available resources and funding. For example, instead of purchasing cover soil or grass not included in the original scope of work for the site, the resident officer in charge of construction was able to locate free soil on the base and resolve the issue into the current remedial action contract. The team's quick response agreement to the thermal soil treatment issue allowed them to take advantage of an available thermal unit located nearby.

Savings Realized

The team's quick response provided the opportunity to receive additional funds not otherwise available, with potential savings ranging from $2.5 to $3.5 million. The quick decision to use free soil found onbase rather than purchasing it saved approximately $10,000. Thermal treatment of soil using available resources and technology saved approximately 6 to 8 weeks, which translated into a cost savings of $40,000 in operations and maintenance expenses.

Overall Results

Using the decision model during the partnering meeting, the team was able to submit Site 42 as available for immediate remedial action. Also, the quick response to soil acquisition prevented rainwater from degrading stabilized soil that might otherwise need restabilization.

NAVAL AIR STATION JACKSONVILLE

Jacksonville, Florida

Engineering Evaluation and Cost Analysis Versus Remedial Investigation and Feasibility Study at Operable Unit 3

Original Condition

Operable Unit 3 is a complex industrial site with multiple contamination points. Originally, a full remedial investigation and feasibility study (RI/FS) was proposed for the entire operable unit as a means of addressing the individual contamination issues contained therein.

Original Approach

The original approach was to follow the RI/FS format, which relies on extensive review and "best guess" recommendations for remediation.

Results of Original Approach

The results would have been an engineering design for site remediation, which would not have been beta-tested in the field under actual site conditions. In addition, this approach would not allow for the early entrance into remediation by the Navy contractor.

How Partnering Was Applied

The concept of the engineering evaluation and cost analysis approach as opposed to the standard RI/FS process was presented to the partnering team for discussion and consensus.

Savings Realized

At this point, cost is expected to be less than that for the RI/FS approach, considering that various technologies can be employed at individual hot spots to evaluate their effectiveness for the RI/FS final consideration. In addition, site remediation can take place much earlier (1 to 1/2 year) than that allowed within the standard RI/FS format.

NAVAL AIR STATION JACKSONVILLE

Jacksonville, Florida

Program Redirection for Operable Unit 1

Original Condition

Operable Unit (OU) 1, located in the south-central part of Naval Air Station Jacksonville, consists of potential sources of contamination known as the Old Main Registered Disposal Area and the Former Transformer Storage Area. Naval Air Station Jacksonville, including OU 1, was put on the National Priority List in 1989, and in 1990 a Federal Facility Agreement was signed by the U.S. Environmental Protection Agency, the Florida Department of Environmental Protection, and the Navy to coordinate installation restoration activities at the base.

Original Approach

Focus was on complete site characterization as the primary objective, following the Superfund structure of exhaustive study to support complete site characterization. The scope of work for OU 1 proposed multiple phases of data collection to completely characterize the site with respect to the extent of contamination in relation to background values.

Results of Original Approach

The work proposed, including following additional phases, was anticipated to take more than 4 years and $8.5 million.

How Partnering Was Applied

ABB Environmental Services, Inc.'s proposed reduction in the field effort to focus on a "sufficient" rather than an exhaustive understanding of the contaminant extent was presented to State regulators through the partnering arena. Through the partnering process, schedule compression was gained by running three phases of the cleanup process in parallel: (1) remedial investigation evaluation and writeup, (2) risk assessments for both human health and ecological factors, and (3) the feasibility study. This was possible by effective reporting and communication among partner members and by teleconferencing to obtain real-time decisions without lengthy review cycles.

Savings Realized

Shifting task management and oversight to one person significantly reduced management costs. Along with the schedule reduction, an estimated $1.5 million is expected to be saved from the approved and funded budget.

Overall Results

As a result of project restructuring through partnering, the Record of Decision for OU 1 is scheduled for completion 9 months earlier than projected. Also, a more dynamic approach was possible that would support remedial action alternatives and contingencies if unanticipated deviations were encountered.

NAVAL AIR STATION JACKSONVILLE

Jacksonville, Florida

Resource Conservation and Recovery Act Procedures at Operable Unit 2

Original Condition

Resource Conservation and Recovery Act (RCRA) closure procedures were underway at Operable Unit 2.

Original Approach

Standard RCRA steps would be followed, i.e., monitoring and cleanup criteria prior to closure of the site.

Results of Original Approach

Standard procedures would take years of negotiation and continued cleanup of the groundwater before reaching clean closure of the site.

How Partnering Was Applied

The partnering team worked together to negotiate interim Records of Decision and interim remedial actions to process these RCRA sites more expeditiously.

Savings Realized

Approximately 2 years of actual cleanup activity plus 20 years of monitoring would be saved; also saved would be the associated costs of individual risk assessments and sampling at the three sites. Selecting presumptive remedies also helped save time and money that would have been spent for justification of methods.

Overall Results

Two sites have been clean-closed, with a third in process. Groundwater contamination will be addressed via remedial assessment and feasibility study procedures for the entire operable unit, thus satisfying the RCRA consent order and closure permit.

NAVAL AIR STATION JACKSONVILLE

Jacksonville, Florida

Soil Removal at Potential Source of Contamination 13

Original Condition

Naval Air Station Jacksonville needed to prepare the area at Potential Source of Contamination (PSC) 13 for construction of a new building. Radiation contamination was known to exist in the soil, with other possible contamination unknown.

Original Approach

The initial idea would have been to send the excavated soil to an offsite disposal location.

Results of Original Approach

Sending soil offsite to a low-level radiation disposal site would be very expensive.

How Partnering Was Applied

Partnering was applied to explore the issues that might arise regarding soil disposal:

- whether or not the material is a mixed waste,
- what legal issues are involved, and
- what other entities must be kept informed about disposal of the material.

Savings Realized

The partnering approach allowed the team to reach an agreement that was appropriate for disposal of the material at the Operable Unit 1 landfill. This resulted in a significant cost savings over the offsite disposal option.

Overall Results

Contaminated soil was removed from PSC 13 in an environmentally sound and cost-effective manner.

NAVAL AIR STATION PENSACOLA

Pensacola, Florida

Extended Remedial Investigation for Site 38

Original Condition

Data gaps in the investigation of Site 38 (former Building 71 and a portion of the industrial wastewater sewer line) at the Naval Aviation Depot and the possible impact of activities performed at adjacent Building 604 (the Consolidated Plating Shop) required scoping and funding an expansion to the current remedial investigation.

Original Approach

Lack of funding to drive the investigation due to decreasing Defense Environmental Restoration account funds could have delayed resolution of the problem for several years.

Results of Original Approach

Data gaps regarding Site 38 would remain unresolved, and possible contamination from Building 604 would not be investigated.

How Partnering Was Applied

The team (U.S. Environmental Protection Agency (USEPA), Florida Department of Environmental Protection, the Navy, Naval Air Station Pensacola, and the Comprehensive Long-term Environmental Action, Navy II contractor) rationalized a solution by expanding the investigation at nearby Site 38 (currently in the remedial investigation stage) to include the investigation and remediation ongoing at Building 604.

The solution was to use Region IV Engineering Services Division to perform data collection supporting remedial investigation oversight as well as filling key data gaps. The fieldwork would be a true partnering effort with USEPA and Navy personnel working together to accomplish the goal of better, faster, cheaper cleanups.

Saving Realized

By the team determining the scope of fieldwork and combining Navy with USEPA assets, it is estimated that the $200,000 investigation will be accomplished for $15-20,000, within the next 3 to 6 months rather than 1 to 2 years.

Overall Results

The team's approach to streamlining the remediation process and combining resources of all the partners resulted in getting to cleanup sooner and with less expense in Naval Air Station Pensacola's most contaminated area (the Naval Aviation Depot).

NAVAL AIR STATION PENSACOLA

Pensacola, Florida

Investigation to Support Base Realignment and Closure Construction

Original Condition

Base Realignment and Closure (BRAC)-mandated closure of the Naval Aviation Depot at Pensacola and subsequent decisions to relocate the Naval Air Station Memphis Naval Technical Training Center School at Naval Air Station Pensacola required massive construction plans while taking into consideration site investigations already underway.

Original Approach

Installation restoration and investigation procedures under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and Resource Conservation and Recovery Act already were underway at Naval Air Station Pensacola:

- Six sites on or near the Naval Aviation Depot area had been identified for remediation.
- Preliminary tests revealing petroleum contamination had been conducted on the concrete, asphalt, and soil of a large portion of the southeastern field.
- Solvent contamination had been further documented at one of the sites.
- The industrial waste line was operating under a Part B permit, but the soil and groundwater potentially affected by the line were regulated under CERCLA.

Results of Original Approach

The BRAC training center construction timeframe of completion by October 1996 was incompatible with the cleanup assessment and procedures underway through the Comprehensive Environmental Long-term Action, Navy program.

How Partnering Was Applied

All entities involved first agreed that the bottom line was to reach cleanup goals in a timeframe consistent with planned construction at Chevalier Field. Each team member provided mechanisms for reaching the necessary timeframes, emphasizing open communication and expedited buy-in. This allowed for streamlined analyses of remediation alternatives as well as swift agreements between the Navy and the State regulators for quick mobilization of remedial action contractors.

Savings Realized

- Approximately $300,000 was saved as lengthy processes were shortened.
- Without partnering, 5 years would have been optimistic to reach concurrence on the environmental sites at Chevalier Field.
- With partnering, a time saving of approximately 3 years was realized.

Overall Results

For construction of the new $230 million training center, soil remediation had to be complete by December 24, 1994, to avoid damages of $120,000 a day. The team's efforts allowed contaminated soil to be successfully remediated before the deadline and under budget.

NAVAL AIR STATION PENSACOLA

Pensacola, Florida

Removal Actions

Original Conditions

- Site 39 was an area of stained soil located adjacent to the Oak Grove Campground.
- Site 30 encompassed a wetland area draining into Bayou Grande and included a waste-receiving metal structure where sediment was highly contaminated.
- Site 32 encompassed an abandoned wastewater treatment plant.

Original Approach

The original approach for these sites would follow the prescribed steps outlined in the National Oil and Hazardous Substances Contingency Plan (remedial investigation, feasibility study, Proposed Plan, Record of Decision), with actual remediation not beginning until 1997.

Results of Original Approach

Lengthy assessment, recommendations, and approvals process would have delayed treatment of highly contaminated sites needing immediate attention.

How Partnering Was Applied

In early 1994, the partnering team evaluated the situations at Sites 30, 32, and 39, and decided to streamline the process for all three sites.

- Site 39: The team decided to forego the feasibility study and expedite the normal Proposed Plan and Record of Decision for quick removal of contaminated soil close to the campground.
- Site 30: The team decided that this contamination source should be removed immediately, thus mitigating the highest risk area at the site.
- Site 32: The team agreed that the contamination should be removed immediately, and agreed to a remedial workplan submitted by the Navy's contractor.

Savings Realized

The quick removal at Site 39 saved approximately $60,000 and 2 years by eliminating the feasibility study. Site 32 removed the worst contamination at the site quickly, paving the way for a less complex remedial investigation and feasibility study. The quick action at Site 32 will allow a focused feasibility study to be performed instead of a full feasibility study, thus saving time and money.

Overall Results

The willingness of the team partners to move these necessary actions forward through a streamlined process greatly reduced risk to human health and the environment as well as got the job done cheaper, better, and faster. The Public Works Center, Pensacola Environmental Division, that performed the removals benefitted by gaining remediation experience, and the Navy benefitted by expanding the options available for remediation work.

MARINE CORPS AIR STATION CHERRY POINT

Cherry Point, North Carolina

Elimination of Intermediate Documents

Original Conditions

Originally, preliminary draft, draft, draft final, and final documents were prepared by the Navy contractor for the Marine Corps Air Station (MCAS) Cherry Point Installation Restoration program.

Original Approach

The preliminary draft documents were reviewed by the MCAS and Atlantic Division engineering field division remedial project managers only. The intention was to provide the Navy and Marine Corps with additional time for review of the document and to ensure that the conclusions and recommendations cited were consistent with Navy and Marine Corps approach and direction prior to the regulator review.

Results of Original Approach

Results of the approach were both costly and time consuming.

How Partnering Was Applied

The Cherry Point Tier I team agreed to eliminate the preliminary draft document. The Tier I members now meet (either by teleconferencing or team meetings) with the Navy contractor to discuss approach, conclusions, and recommendations prior to the distribution of the draft document. The Tier I team members agreed to perform the first-time review of the draft document, recognizing that the Navy and Marine Corps may also have significant comments regarding the technical approach, recommendations, and conclusions.

The team members also agreed to eliminate the draft final documents and replace them with a response to comments letter to address all comments before distribution of the final report.

Savings Realized

An estimated $18,000 to $30,000 was saved for each operable unit (dependent on the complexity and size of the unit) by eliminating the preliminary draft and draft final documents. In addition, the 30-day review by the Navy and Marine Corps and the 30-day preparation of the draft by the Navy contractor were also eliminated, which resulted in a time saving of 60 days within the schedule per operable unit.

Overall Results

Beneficial results are identified by the cost and time savings. Technical merits of the document are also strengthened by evaluating all comments at once and developing responses to meet the needs of all team members.

MARINE CORPS AIR STATION CHERRY POINT

Cherry Point, North Carolina

Restoration Advisory Board Community Member Selection

Original Condition

Screening and selection of the community member nominees for the Restoration Advisory Board (RAB) had not previously involved Tier I team members.

Results of Original Approach

Selection of the community RAB member was not based on input from the Tier I team partners.

How Partnering Was Applied

Community relations and RAB topics are included as agenda items for Cherry Point Tier I team meetings. Tier I team partners were invited and encouraged to participate in the screening process for RAB community member nominees. This participation included discussing the RAB establishment process with team members, participating in the RAB prospective community member application review meeting, and interviewing nominees.

Savings Realized

The specific cost and time savings are not quantifiable.

Overall Results

As a result of team member input and assistance into selection of the community representatives, the team members have adequately screened prospective community members who can best represent the surrounding community, thus achieving the goals of the RAB as well as enhancing the program.

MARINE CORPS BASE, CAMP LEJEUNE

Camp Lejeune, North Carolina

Partnering

Original Conditions

The remediation process was very lengthy and drawn-out, with many reviews and lapses in communication.

Original Approach

Preliminary documents were reviewed and revised through multiple passes, and progress toward completion was slow.

Results of Original Approach

The remediation process was both time consuming and costly.

How Partnering Was Applied

Partnering brought together the key players from each organization in the remediation arena for Marine Corps Base (MCB), Camp Lejeune, to include regulatory and technical support. Partnerships have been fostered with the Atlantic Division, Naval Facilities Engineering Command; Environmental Protection Agency, Region IV; North Carolina Department of Environment, Health, and Natural Resources; Baker Environmental, Incorporated, the Comprehensive Long-term Environmental Action Navy contractor; and OHM Remediation Services Corporation, the Remedial Action contractor. Through the partnering process, representatives from each of these organizations worked together as a team, fully participated in the remediation process, and were responsible for the success of the program. This fostered a commitment to work toward the common goal of expeditious study and remediation, thereby saving limited funds that could be used primarily on cleanup efforts.

The principals of the partnering program are to maintain full compliance with all existing environmental laws and establish expedited procedures for approvals by Federal, State, and local government agencies. The fundamental key to this informal partnership is a commitment by each member to work toward the common goal to the best of his/her ability. Some of the other elements required to achieve remediation in a reduced timeframe include a team approach to identifying goals, taking calculated risks (such as beginning the design phase prior to the signing of the Record of Decision [ROD]), and initiating removal actions during the remedial investigation and feasibility study phase of the remedial alternative.

Savings

Effective use of partnering has enabled MCB, Camp Lejeune to expedite the timeframe to reach the remediation process from the typical generic timeframe of 65 months to a more aggressive schedule of between 24 and 36 months. Although dollar savings have not been specifically quantified, the financial benefits of spending less time negotiating and more time making real remediation progress are obvious.

(continued on page 2)

MARINE CORPS BASE, CAMP LEJEUNE

Camp Lejeune, North Carolina

Basewide Groundwater Remediation Study (BRAGS)

BRAGS Objectives

The BRAGS is a comprehensive local and site-specific groundwater model (3-D flow model), which will provide the Atlantic Division, Naval Facilities Engineering Command and Marine Corps Base (MCB), Camp Lejeune with groundwater flow models. The objectives of BRAGS include description of groundwater flow, evaluation of contaminant transport, prediction of the effectiveness of various remediation schemes at individual sites, and demonstration of the effects of groundwater withdrawals on the Castle Hayne aquifer. It is envisioned that BRAGS will be utilized as a decisionmaking tool for groundwater management, protection, and restoration.

How BRAGS Was Applied

The BRAGS model was designed to model both basewide and site-specific groundwater situations. The basewide model was constructed based on groundwater elevation data from more than 30 sites at the base and from U.S. Geological Survey data collected from the water supply wells at the base. Site-specific model data were constructed from Installation Restoration Sites 3, 6, 9, 82, Underground Storage Tank Sites 889-891, and from nearby water supply wells.

To date, a report has been completed that provides a comprehensive groundwater model for Site 82. The report provides an evaluation of the Site 82 pump-and-treat system, including the anticipated capture zones and placement of shallow and deep extraction wells. A pump and recovery test at Hadnot Point Fuel Farm has recently been finished, and a report is due out soon.

Savings

By modeling basewide and site-specific scenarios, BRAGS can be used as a forecasting tool to help planners make better decisions regarding groundwater resource management concerns. Pumping well locations and pumping rates at specific sites can be changed or modified in order to evaluate numerous remediation schemes and scenarios. With the aid of this tool, plume and groundwater modeling for some systems may be able to reduce long-term monitoring from 30 to 15, 10, or even 5 years. This, in the long term, will reduce operational and maintenance costs of these larger remediation systems.

Overall Results

The focus of BRAGS is to develop a basewide groundwater flow model that can be used to evaluate the effects of various groundwater remediation projects that are active or planned for at MCB, Camp Lejeune. BRAGS will reduce operational and maintenance costs, model contaminant plumes, and forecast the various effects different remediation systems have on one another.

MARINE CORPS BASE, CAMP LEJEUNE
Camp Lejeune, North Carolina
Remedial Action Goal Changes

Original Conditions

The remedial action level for Site 21, Transformer Storage Lot 140, was originally based on future residential use and set in the Record of Decision at 0.37 parts per million (ppm). At Site 80, Paradise Point Golf Course Maintenance Area, the original removal action level for pesticide-contaminated soil for a Time-Critical Removal Action was established for the pesticide Dieldrin at 37 parts per billion (ppb).

Original Approach

The initial remediation levels for removal of polychlorinated biphenyls and pesticide-contaminated soil at Installation Restoration (IR) Sites 21 and 80 were found to be much more stringent than required in order to protect human health and the environment.

How Changes Were Applied

Site-screening activities at the proposed area of excavation for Site 21 revealed that the use of the 0.37 ppm action level would result in additional cost, twice the original estimate. Using an industrial exposure scenario, the action level was revised to 10 ppm via an Explanation of Significant Differences.

Preexcavation site screening at Site 80 using the action level of 37 ppb showed an area twice as large as the original estimate. The original action level was based on a professional groundskeeper working all day everyday onsite. Using a more appropriate industrial exposure scenario, regulators agreed to the revised 360 ppb action level.

Savings

Marine Corps Base (MCB), Camp Lejeune has significantly reduced the need to remove contaminated soil from the base for treatment and disposal. A substantial cost savings has resulted through the change of remedial action goals while still maintaining protection of human health and the environment. Savings between the 0.37 ppm and the 0.10 ppm remedial action levels at Site 21 were more than $500,000.

At 37 ppb, approximately 1,900 tons of contaminated soil would have been removed from Site 80 and sent offbase for treatment and disposal, at a cost of more than $900,000. At the revised action level of 360 ppb, there were approximately 950 tons of soil, and the remedial action cost was $633,000. This revised removal action level reduced the amount of soil requiring action by 50 percent and provided a cost savings of approximately $300,000.

Overall Results

Thorough investigation of the remedial action goal at IR Sites 21 and 80, MCB, Camp Lejeune, altered the cleanup levels to more appropriate industrial exposure scenarios. This has resulted in the reduction of the amount of generated hazardous waste soil being removed from the base for treatment and disposal, as well as resulting in a cost savings of approximately $800,000.

MARINE CORPS BASE, CAMP LEJEUNE

Camp Lejeune, North Carolina

Time-Critical Removal Actions

Purpose of the Actions

Using guidance established in the National Oil and Hazardous Substances Pollution Contingency Plan, Marine Corps Base (MCB), Camp Lejeune has completed numerous Time-Critical Removal Actions (TCRAs). These TCRAs were employed to reduce risk to human health and the environment while continuing with the environmental investigation process.

How TCRAs Were Applied

During the summer of 1994, MCB, Camp Lejeune employed a TCRA to remove pesticide-contaminated soil at Installation Restoration (IR) program Site 2, Former Nursery and Day Care Center. This site had been used as a pesticide mixing and storage facility prior to being converted to a nursery and day care center. Following the completion of the TCRA, MCB, Camp Lejeune was able to sign a Record of Decision (ROD) selecting an Institutional Controls remediation alternative with long-term monitoring of the groundwater.

In 1995, MCB, Camp Lejeune removed dangerous metallic debris from IR Site 43, the Agan Street Dump at Marine Corps Air Station, New River. IR Site 43 is located immediately adjacent to a nearby residential area, next to a Boy Scout meeting place. The debris scattered throughout the site included a military armored vehicle (tank) and numerous other pieces of rusted metal. By removing this metallic debris, the risk endangering residential children playing at the site was mitigated. This TCRA will probably lead to the selection of a No Action remediation alternative in the ROD.

May through June 1996 found MCB, Camp Lejeune again employing a TCRA to remove pesticide-contaminated soil from an IR site. IR Site 80, the Paradise Point Golf Course Maintenance Area, underwent removal action to reduce the human health risk associated with soil contaminated with pesticides that were stored and mixed at the site. This TCRA will probably lead to the selection of a No Action remediation alternative in the ROD.

Overall Results

When faced with soil contamination and minimal or no groundwater contamination, MCB, Camp Lejeune took the lead agency role and proactively initiated TCRAs. Through implementing TCRAs, MCB, Camp Lejeune has been able to remove risk to human health and the environment as well as expedite the IR process by removing contamination. This has enabled MCB, Camp Lejeune to sign RODs requiring remediation alternatives of No Action or Institutional Controls only.

MARINE CORPS BASE, CAMP LEJEUNE

Camp Lejeune, North Carolina

Five Well Site Assessments

Original Conditions

The Underground Storage Tank (UST) program at Marine Corps Base (MCB), Camp Lejeune had more than 125 contaminated sites that were in some stage of remediation. Before corrective action could be put in place, a UST site had to be investigated to determine the extent of contamination and the appropriate remediation needed.

Original Approach

Historically, a typical site assessment was composed of 12 Type II wells, 3 Type III wells, and 15 Hydropunch borings to delineate soil and groundwater contamination. Quite often, soil contamination was poorly delineated while a large number of monitoring wells were placed at the outer edges of the groundwater plume.

How Changes Were Applied

To eliminate unneeded monitoring well costs, MCB, Camp Lejeune modified the previous investigation process to a five Type II well (shallow aquifer) and two Type III well (intermediate aquifer) site assessment. The decrease in monitoring wells was replaced by obtaining soil and groundwater data via 15 Geoprobe sampling points, which have replaced the Hydropunch sampling. The Geoprobe sampling was initially analyzed so that the monitoring wells could be strategically placed to ensure complete horizontal and vertical delineation of both soil and groundwater.

Savings

Due to extensive cuts in the Department of Defense's Defense Environmental Restoration Account budget, it is important to save funds wherever possible. By cutting back the amount of monitoring wells used in a site assessment, more than $20,000 per site has been saved, and a total of $200,000 has been saved in Fiscal Year 1996.

Overall Results

Spending more money at a UST site does not necessarily mean a better product. By strategically using fewer wells, a better quality site assessment was accomplished; thus, funding could be used in other areas of the remediation effort.

Marine Corps Base, Camp Lejeune

Camp Lejeune, North Carolina

Underground Storage Tank (UST) Partnering

Original Conditions

The UST program at Marine Corps Base (MCB), Camp Lejeune manages more than 125 sites that are in various states of remediation, ranging from Site Sensitivity Evaluations to operation and maintenance of remediation systems.

Original Approach

The typical remedial process to reach cleanup goals set by the North Carolina Department of Environment, Health, and Natural Resources consists of a site assessment, pilot tests, corrective action plan, design, construction, and operation and maintenance.

Results of Original Approach

This process requires extensive review and coordination between all parties involved.

How Partnering Was Applied

MCB, Camp Lejeune, in collaboration with other Department of the Navy representatives, remedial investigation contractors, and remedial action contractors, initiated an informal partnering effort to bring together key people from each organization to work as a team. Each member was committed to working toward the common goal of achieving cleanup of the contaminated sites, while protecting human health and the environment, as expeditiously as possible. The partnering effort allowed each member to express views and opinions so that final recommendations could be understood and agreed upon by all.

Savings

Partnering meetings now occur bimonthly. As a result, review time of draft reports has decreased dramatically, innovative ways to assess contamination and cut costs have been implemented, and the transition from the remedial investigation contractor to the remedial action contractor is now a team effort.

Overall Results

Due to the UST partnering initiative, better working relationships, higher quality work, site assessment savings of 25 percent, and an expedited remediation schedule have resulted.

Marine Corps Base, Camp Lejeune
Camp Lejeune, North Carolina
Investigative-Derived Waste Disposal

Original Conditions

Marine Corps Base (MCB), Camp Lejeune has several sites that have not been completely investigated. These sites require further investigation of soil and groundwater contamination before the appropriate remediation technology can be implemented.

Original Approach

To delineate the existing contamination soil borings, soil samples, geoprobes, hydropunches, monitoring wells, and groundwater samples are analyzed. Gathering this information creates investigative-derived wastes that typically require treatment or disposal as contaminated material. Historically, MCB, Camp Lejeune had this material containerized, shipped offbase, and disposed of at permitted treatment facilities.

How New Systems Were Applied

Several remediation systems have been constructed at MCB, Camp Lejeune to remove free product and treat groundwater that is contaminated with petroleum or solvents. These systems can effectively treat investigative-derived wastes that contain petroleum or solvent contamination. The investigative-derived waste is sampled and analyzed to determine its constituents. If the investigative-derived waste can be treated by one of the existing remediation systems, it is transported to and treated on the base in lieu of shipping it offbase and disposing of it at a permitted treatment facility. Treating the investigative-derived waste at the MCB, Camp Lejeune base reduces the associated transportation and disposal cost.

Savings

The Department of Defense has a limited budget to investigate and remediate contaminated sites. By saving funds associated with investigation, more remediation efforts can take place within the existing budget.

Overall Results

Investigative-derived waste can be treated by systems on the base, thus reducing associated costs and allowing funds to be spent on other remediation efforts.

NAVAL STATION MAYPORT

Mayport, Florida

Clean Closure Equivalency Demonstration

Original Condition

The report had been stalled between regulatory agencies in a low-priority program while they discussed who should take the lead.

Original Approach

Prepare and submit the report, then wait for a response.

Results of Original Approach

No progress was being made, with no resolution in sight.

How Partnering Was Applied

The partnering process was used through regulatory intervention to identify how to proceed and bring the issue to the attention of the right people.

Savings Realized

In terms of time, a process that had been backlogged for 2 years was resolved and did not need to be revisited, thus saving approximately 2 more years in potential duplication of efforts.

Overall Results

Regulatory advocacy for resolution was established where none had previously existed. Also, Solid Waste Management Unit 12 was closed on the Hazardous and Solid Waste Amendment permit.

NAVAL STATION MAYPORT
Mayport, Florida
Corrective Action Process

Original Condition

The process from workplan initiation through all required approvals before actual cleanup could begin was too complicated and lengthy.

Original Approach

- Investigation plan formulated and packaged as a workplan
- Draft workplan submitted for review
- Regulatory review process for comments and changes
- Revisions and resubmittal of workplan
- Second round of regulatory review of comments
- Revisions and resubmittal for approval
- Process repeated for other project reports

Results of Original Approach

A lengthy, tedious process of letter writing and response to comments ensued without progressing to actual cleanup.

How Partnership Was Applied

The partnering process began during the workplan initiation phase, allowing

- walk-through of the plan and investigation rational *before* submittal/review process,
- in-process adjustments during internal review and input from team members during scoping phase, active fieldwork, and report review.

Savings Realized

- There was a reduction in process length by at least 50 percent, a savings of $1.5 million.
- Without partnering, the original workplan review and approval took approximately 2 years.
- With partnering, three of four phases in the corrective action program were completed at 93 percent of sites under investigation in 3.5 years.
- Investigations have begun at six additional sites.

Overall Results

- Early team input into the process reduced revisions to the final package, allowing regulators to focus on other priority issues.
- Team efforts were focused on resolving issues rather than arguing about them.
- Interaction among team members was enhanced through improved communications.
- Regulatory comments and questions are now focused on substantive issues rather than questions asked due to lack of information.

NAVAL STATION MAYPORT

Mayport, Florida

Navy Environmental Leadership Program

Original Condition

Approximately $1 million invested in cleanup, oversight, and site preparation through the Navy Environmental Leadership Program (NELP) innovative technology contracts was awarded to three contractors in the cleanup category.

Original Approach

Conventional corrective action process required the following steps:

- workplans
- review and revisions
- corrective measures studies
- permit modifications
- progress reports and reviews

Results of Original Approach

Lengthy turnaround on approvals resulted in delayed cleanup.

How Partnering Was Applied

Partnering approach allowed "fast-track" review and approval of contractor submittals, thus taking advantage of available technology and funding of nonstandard corrective action approaches.

Savings Realized

- Time needed to implement actual cleanup was reduced by 50 percent.
- A quicker timetable enabled use of $1 million that could have been lost through Termination of Convenience.
- Government was not required to pay delay costs.

Overall Results

Alternative sources of funding could be used, actual cleanup could begin quicker, and technologies complementing the corrective measures study in progress could be used.

NAVAL STATION MAYPORT
Mayport, Florida
Notice of Violation Prevention

Original Condition

Removal of soil from a solid waste management unit was being investigated under the Hazardous and Solid Waste Amendment permit.

Original Approach

The action would have gone unnoticed or possibly identified by regulatory agencies at a later date.

Results of Original Approach

The Navy would have incurred significant fines upon discovery of the action by regulatory agencies.

How Partnering Was Applied

Through the partnering process, the Navy was able to bring the issue to the table for an open discussion and resolution.

Savings Realized

Fines of at least $30,000 were saved.

Overall Results

Through the team's collective decision-making process, the Navy received guidance on how to resolve the problem without incurring a fine.

NAVAL TRAINING CENTER (NTC), ORLANDO

Orlando, Florida

Area C Investigation

Original Conditions

The Area C laundry site was screened as part of our Group II sites. Perchloroethylene was detected in soil and groundwater at concentrations that exceeded standards. The findings were discussed at our November Restoration Advisory Board (RAB) meeting where a concerned citizen asked if any contamination was found in Lake Druid, a small lake about 200 yards west of the site.

Original Approach

The original approach to a contaminated site would have been to investigate the site further under the Installation Restoration program, performing a remedial investigation and feasibilty study. This could take 2 to 4 years.

How Partnering Was Applied

After the November RAB meeting, the Orlando Partnering Team (OPT) took sediment and surface water samples from Lake Druid. When the analytical results were received in December 1995, the OPT immediately held a conference call to discuss the results. A preliminary risk evaluation showed no immediate risk to human health, but State surface water standards were exceeded, requiring additional action and assessment. To stop the surface release to the lake, the OPT initiated an Initial Remedial Action (IRA).

This information was presented to the RAB in January 1996. The RAB agreed with our decision. The Southern Division Remedial Project Manager located funding for the investigation, design, and pilot study portions of the IRA, and it was awarded on March 1, 1996.

Savings

Partnering helped accomplish in 3 months what would have normally taken 2 to 4 years. Speedy assessment of the contaminated site will reduce the cost to remediate the site.

Overall Results

A concern of the community was addressed, and the Navy is working toward the rapid cleanup and transfer of the NTC, Orlando property.

Naval Training Center (NTC), Orlando

Orlando, Florida

Disposal of Investigative-Derived Waste

Original Conditions and Approach

During Installation Restoration (IR) field activities, water and soil investigative-derived waste (IDW) was generated and stored onsite. Some of the IDW exceeded minimum standards. The standard way to handle this would have been to follow Resource Conservation and Recovery Act (RCRA) requirements for disposal of IDW by transporting it offsite to a hazardous waste disposal facility. This alternative would have changed NTC, Orlando's status from a small-quantity generator of hazardous waste to a large-capacity generator. Offsite disposal would have resulted in additional costs to the IR program and reduced the amount of funds available for further investigation and cleanup. The challenge was to determine if there were other ways to dispose of the drummed IDW.

How Partnering Was Applied

At the Orlando Partnering Team (OPT) meeting in January 1996, the partners discussed the issue and decided that those drums with IDW that did not exceed maximum contaminant levels or soil cleanup standards would be disposed of onsite. For those that did exceed any standards, the OPT decided to meet with Florida Department of Environmental Protection (FDEP) District RCRA Section to discuss possible disposal alternatives.

At the meeting with the FDEP District, it was determined that the drums listed as hazardous waste could be pretreated prior to discharge into the local wastewater treatment system in accordance with a preexisting National Pollutant Discharge Elimination System permit issued by the city. The local wastewater authority concurred with this alternative.

Savings

Considering that current costs of offsite handling and disposal are approximately $300 per drum, approximately $90,000 has been saved as a result of these decisions. A saving of over $200,000 is expected over the length of the project for disposal of IDW.

Overall Results

The team's approach shows how partnering produces results that are cost effective, save time, and provide better and innovative solutions. This process is critical considering the limited amount of funds available.

Naval Training Center (NTC), Orlando

Orlando, Florida

Investigation of Southwest Corner, Main Base

Original Condition and Approach

To minimize disruption to current operations at NTC, Orlando, site investigations were programmed in the order in which the Navy vacated the facilities.

The Southwest Corner is located in the Naval Nuclear Power Training Command portion of the Main Base. It is largely undeveloped with areas for outdoor recreation and dumpster storage. The parcel was scheduled to transfer to the Local Redevelopment Authority (LRA) in 1999.

The LRA wants to attract developers and generate immediate cash flow in order to finance the redevelopment of other parcels. To accomplish this, the LRA requested that NTC, Orlando transfer the Southwest Corner in 1996 instead of the initially planned parcel, which has an initial $10 million demolition cost.

How Partnering Was Applied

The Southwest Corner was not scheduled for site screening until the FY97 program, and the FY96 program could not accommodate additional screening. However, a late FY95-awarded task order modification to screen eight sites (intended for the McCoy Annex) could be adjusted to include three additional sites at the Main Base if a corresponding number were dropped from the McCoy Annex.

Since both the McCoy Annex and the Southwest Corner were now targeted for early redevelopment, the Orlando Partnering Team (OPT) consulted with the LRA, which agreed to shift its priorities. The LRA identified the sites that could be dropped and have since reprioritized the remaining ones in case a similar situation occurs.

Savings

The savings that will accrue cannot be measured in dollars, but can be appreciated as intangibles. We have gained the trust and cooperation of the LRA, which will enhance the efforts of the OPT over the life of the program, and we are able to release the property to them as much as 2 1/2 years early. This action reduces the cost to the citizens of Orlando for financing the redevelopment of NTC, Orlando and directly supports the President's 5-Part Plan for Fast-Track Cleanup.

NAVAL TRAINING CENTER (NTC), ORLANDO

Orlando, Florida

Storage Tank Removal Program

Original Condition

NTC, Orlando is scheduled to close under the Base Realignment and Closure program in phases from 1995 through 1999. Some 200 underground and aboveground storage tanks must be removed in order to meet future land-use requirements and to satisfy agreements between the Navy and the State of Florida that if potential sources of soil and groundwater contamination are found, the sites must be remediated.

Original Approach

Typically, a project of this type would begin with an extensive site investigation to determine tank conditions and the nature and extent of contamination. Actual tank removal and soil and/or groundwater remediation would follow the investigation. This approach would accurately define the scope of removal and remediation and allow the Navy to fix-price the work with a local tank removal contractor. This would be an expensive and time-consuming process, probably delaying cleanup and turnover milestones. Even with thorough site investigation, a fixed-price tank removal contract would likely be subject to changed site conditions and cost overruns.

How Partnering Was Applied

Six months before removals were scheduled to begin, the Navy and its contractors, ABB Environmental Services, Inc. (ABB-ES) (investigative services) and Bechtel Environmental, Inc. (BEI) (tank removal), met to develop strategy. The first phase would be removal of tanks in the 1995 program (approximately 55). As overall program manager, Southern Division, Naval Facilities Engineering Command (SOUTHNAVFACENGCOM) faced a limited budget, a requirement to accelerate property transfer, and a frequently changing list of tasks.

The plan that emerged was to forego preconstruction site investigation. BEI would use its experience and best judgment to estimate what site conditions would be encountered and develop its workplan and budget around those assumptions. ABB-ES would investigate contamination during tank removal and insure that State requirements were met. State regulators agreed with this approach and helped simplify the process even further. SOUTHNAVFACENGCOM and NTC, Orlando supported the contractors' initiatives and coordinated changes to the removal list so that fieldwork proceeded without delays. The partners also developed a Responsibility Assignment Matrix (RAM) that identified and sequenced all significant tasks and assigned primary and supporting responsibilities. ABB-ES and BEI updated the RAM as workplans developed to ensure that the efforts of all partners would be fully coordinated during the execution phase.

When fieldwork began, the Navy and its contractors met weekly to accomplish detailed planning and coordination for the work at each tank site. Sites were initially reviewed 3 weeks in advance, and plans became more specific as the removal date came nearer. Continuous communication among all partners kept the work moving rapidly and virtually eliminated coordination problems.

(*continued on page 2*)

Naval Training Center (NTC), Orlando

Orlando, Florida

Tank Management Program
Contamination Assessment

Original Condition

The majority of all the petroleum tanks on NTC, Orlando property are unregulated tanks. Because the Navy property is intended to be transferred to the public, significant resources were expected to be expended ensuring that all tank sites were "clean" prior to that transfer. Consequently, the State of Florida would require that regulated and unregulated tanks be addressed and investigated in the same manner. Additionally, per Florida Department of Environmental Protection (FDEP) regulations and guidelines, all discovered petroleum-contaminated sites would require a Contamination Assessment Report (CAR). This report documents all regional, local, and site aspects, including hydrology, lithology, background, history, sample methodology, and sample results. It also includes conclusions and recommendations for future actions at the site.

Original Approach

Each of the unregulated tanks would require the same effort as the regulated tanks. This would mean that over 200 tanks, which included both underground storage tanks and aboveground storage tanks, would require at least five soil samples and at least one permanent monitoring well to be installed. Because each contaminated site would require a CAR, the potential existed for preparation of as many as 200 individual CARs. Each CAR, by regulation, would contain similar sections and identical data for common categories such as regional geology.

How Partnering Was Applied

In 1994, before NTC, Orlando officially entered the partnering program, but after the State and Southern Division had started to partner, the Navy approached FDEP to discuss the tentative approach to the unregulated tanks. After a 4-hour meeting, FDEP agreed to treat the unregulated tanks in such a way that possible contamination would be addressed in a prudent, cost-effective manner. Rather than installing five soil samples and a permanent well, samples would be collected and a temporary well installed, depending on the size of the tank and other parameters. Because the expected contaminated sites were in the same area, the partnering team also discussed ways to consolidate the information. The resulting agreement provided the direction to produce a "master" CAR for each of the four areas of the NTC, Orlando property (if contamination were found), and each site would be an addendum to the master document.

Savings

Based on approximately $1,000 per permanent well and $500 for sample results applied to 200 tanks, a saving of over $200,000 will be realized over the length of the Tank Management program. Additionally, close to 1,000 hours of field labor time and document production efforts will have been saved. By consolidating common information in a master CAR, less paper will be used to produce each successive CAR addendum. Internal review time and production efforts will be reduced. Navy and regulator review time and effort will also be reduced.

NAVAL AIR STATION
Glenview, Illinois
Asbestos Containing Material

Original Conditions

NAS Glenview was to be closed under BRAC 1993 legislation, except for family housing that would remain to support NTC Great Lakes. The Navy planned new construction to increase the number of houses there. Ten acres of grassy land for the new housing had previously contained housing units that had been demolished. Although the debris had been hauled away, some small pieces of siding, which was an asbestos containing material (ACM), could occasionally be seen on the surface. A similar situation existed in a large pile of soil that was left over after demolition and new construction of a barracks. Something had to be done with the soil in order to support reuse and construction.

Original Approach

Even though the ACM was widely scattered and non-friable, a previous consultant had informally suggested either raking the topsoil or removing al topsoil completely. Of course, it would have been disposed of as ACM at a permitted landfill. No action was taken at that time.

Results of Original Approach

If removal were to be undertaken, the Navy would fund, initiate, and follow through with this work over a period of several moths. Assuming only six inches of depth, the large site plus the pile would send over 8,000 cubic yards of soil to a landfill, both costing money and depleting landfill capacity. Raking the soil would be difficult and could not ensure complete removal.

How Partnering Was Applied

The BRAC Cleanup Team (BCT) did not wish to categorize the soil as ACM without scientific data. After discussing the situation with an ACM consultant, a plan was developed to gather data. The 10-acre site was laid out in a grid and soil samples were taken over the entire site. Borings were made at the large soil pile. The legal definition of ACM is a material with greater than 1% asbestos in it. The final result was that the soil did not have even one sample showing more than one-percent asbestos content. Only two samples found a trace of friable asbestos. Both sites were cleared with no further action needed. This was a consensus decision.

Savings Realized

The savings were estimated at $1,200,000 that takes into account the cost of the study at only $37,600. Landfill space could be used for control of truly hazardous material.

Overall Results

The Navy, through the BCT coordination efforts among themselves and with the consultant developed a scientific plan to use to aid decision making, and saved money.

NAVAL AIR STATION
Glenview, Illinois
Environmental Baseline Survey (EBS)

Original Conditions

NAS Glenview was to be closed under BRAC 1993 legislation with most of the real estate being transferred to private ownership for various reuse scenarios. While conducting the Environmental Baseline Survey (EBS), the researchers of base history and rumors found that site S004 was said to be a former landfill area.

Original Approach

One aspect of performing the EBS is to gather historical information, including folklore, old aerial photographs, and any site plans in the historical files as well as visual observation. If these are insufficient to classify a site, then scientific data is obtained. Site S004 was in use a golf driving range and a portion of the airfield. Aerial photographs did not show a landfill, but did show grading had taken place there many years before. A prior Preliminary Assessment/Site Investigation found no evidence, but was inconclusive. A landfill, although unlikely, could not be ruled out. Often, the next step is to gather subsoil data by trenching or taking borings and having lab tests to get a full spectrum of possible chemical contamination. The site would be surveyed in a grid pattern with 25 foot spacing (or other chosen amount) to locate sample points.

Results of Original Approach

The Navy would fund, initiate, and follow through with this work over a period of several months. Heavy equipment costs and lab samples are expensive if used over large areas.

How Partnering Was Applied

The BRAC Cleanup Team (BCT) had little evidence to suggest chemical contamination was present. Further, a landfill may be small in comparison to the large acreage under question. A better method to determine underground conditions and exact location was desired. So after seeking alternatives from knowledgeable consultants on the partnering tam, it was decided to conduct an Electromagnetic Survey (EM). It too, uses a grid, but the soil is not disturbed, and the speed is faster, freeing up the driving range sooner than digging could.

Savings Realized

The savings were estimated at $500,000. The cost of the EM survey was under $50,000.

Overall Results

The Navy, through the BCT coordination efforts among themselves and being responsive to alternative ideas was able to clear the whole area. Nothing was found under the site except a utility line in the area construction drawings showed it to be. This proved the EM method was reliable.

NAVAL AIR STATION
Glenview, Illinois
Land Reuse/Transfer

Original Conditions

NAS Glenview was to be closed under BRAC 1993 legislation. The Navy planned to shut down all operations, except caretaker activities, on or before September 30, 1995. The closure included recreational activities, the largest being the Golf Course. Approximately 18 full and part time golf course employees would be out of work. A golf course is a maintenance intensive asset, which could lose value if abandoned.

Original Approach

After operational closure, only essential maintenance activities would still be accomplished. The golf course would be abandoned until it was transferred to other ownership. Fairways and greens would deteriorate, and employees would have to find other work.

Results of Original Approach

The Navy would have an asset that would be reduced in value, and workers would be laid-off.

How Partnering Was Applied

The BRAC Cleanup Team (BCT) was aware of the fact that the Local Reuse Authority (LRA) had an approved plan to reuse the golf course for the same purpose that it had for the Navy. The Village of Glenview was the approved LRA and had a user ready to take on golf course operations. The BCT had earlier initiated monthly meeting with the Village in order to Formulate and prioritize transfer and environmental study/remedial actions. The golf course transfer was established as a top priority. The BCT was also aware that golf courses around the country had come under suspicion of causing harm to human health and the environment because of the intensive and sometimes excessive use of chemicals to maintain the turf in top condition. The existing base golf course was originally a private course constructed and operated since the 1930's. There were no records of what type of pesticides or herbicides were used in the early years and no data to indicate if residual levels of these chemicals till remained. Thus the golf course was not ready to be found "suitable for transfer". The BCT quickly developed a plan to study the area and the Navy funded and initiated the field work. At the time of operational closure, the laboratory sample results were available, but the subsequent final study had not been completed. The BCT could find no reason to suspect the golf course was an immediate hazard to human health or the environment because the residual levels of chemicals were not very high. The long-term effects were still being assessed. So the Navy quickly produced and the BCT approved a Finding of Suitability to Lease the golf course and its supporting facilities. It was signed on August 31, 1995, just in time to allow the new operator to continue operation of the course and retain its employees so there was no period of unemployment and no period of maintenance loss.

Savings Realized

The golf course was valued at $2 million. Because it did not require extensive demolition and infrastructure rework, it is the only transferring parcel on the entire base that has so far been found to have reimbursement value to the Navy and U.S. taxpayers. The employees did not lose wages and become recipients of unemployment compensation, further saving taxpayers' money.

Overall Results

The Navy, through the BCT coordination efforts among themselves and with the LRA, was able to achieve a timely transfer action. The golf course was later found to be "Suitable to Transfer" and maintained its value to the Navy. This is an example of the BCT working as a team with the Navy and the LRA to assess priorities and take action to meet deadlines. it also provided value to the local community.

NAVAL AIR STATION
Glenview, Illinois
Underground Storage Tanks

Original Conditions

NAS Glenview was to be closed under BRAC 1993 legislation, except for family housing which would remain to support NTC Great Lakes. The Navy planned new construction to increase the number of houses there. New streets and underground utility systems were under construction. The utility contractor discovered three abandoned underground storage tanks (USTs) while routinely excavating for utilities.

Original Approach

The tanks were determined to require removal under State UST regulations since they had contained a petroleum product. This requires an approved work plan, notification of the Fire Marshall's Office, and removal and confirmation of complete cleanup of all impacted soil.

Results of Original Approach

The Navy would fund, initiate and follow through with this work over a period of several months. Housing construction would be delayed. There would be a cost for delay time.

How Partnering Was Applied

The BRAC Cleanup Team (BCT) had previously approved all the planning documents for similar work at Glenview. A contractor was on station doing similar work. Due to the ongoing working relationships between the Navy, State, Federal Environmental Regulatory Agencies, RAC and CLEAN contractors, BRAC Cleanup Team members and supporting personnel, the necessary compliance items were handled in short order. During the tank removal work, two additional USTs were found. These were also promptly managed. The overall team work effort, especially among those parties who would not receive any direct benefit from expediting the effort, such as the State Fire Marshall's Office, resulted in the project being completed to the satisfaction of all concerned without causing the navy major delay costs. There never was any guarantee that having a contractor doing similar work nearby would enable the Navy to so quickly respond to such an unforeseen situation. All tanks were removed from the area in 24 days.

Savings Realized

The savings were estimated at $270,000. This is based on $2000 per day for delay costs. A similar but routine UST project at a neighboring site took 180days from mobilization to receipt of laboratory soil samples which indicate the cleanup objectives had been met.

Overall Results

The Navy, through the BCT coordination efforts among themselves and with the contractors and Fire Marshall's Office had the site cleared for construction in 45 days.

NAVAL AIR WARFARE CENTER INDIANAPOLIS
Indianapolis, Indiana
Application of Technology

Original Conditions

The NAWC site needed to complete the RI/FS process, and there was virtually no existing analytical information available to serve as a foundation for work plan development.

Original Approach

Typically, a multi-phased approach would have been implemented. An initial field event would have been scheduled to determine baseline conditions, and a later subsequent field event would have been necessary to determine the true extent of contamination in excess of action levels. Each phase would have required work plans, revisions, and eventual approvals from various interested parties, possibly including formal review of results of Phase I before even beginning early planning for phase II.

Results of Original Approach

Two to three years could have passed while the study phase was completed, without even beginning to address remediation for any contaminated areas identified.

How Partnering Was Applied

The BRAC Cleanup Team (BCT) partnering team agreed to complete as much of the RI sampling and analysis process as possible in a single phase. Besides drawing on the team's willingness to approve a dynamic work plan where as-yet unspecified sample locations would be added on-the-fly during field work according to criteria described in the plan, the use of innovative technology was necessary. Key technology elements included an onsite portable gas chromatograph (PGC), direct push (DP) sample collection, and use of immunoassay test kits. Major contaminants on site were expected to be volatile organic chlorinated solvents (VOCs). The BCT was willing to approve a work plan where screening preliminary samples for VOCs as measured by the PGC would serve as indicators of where to collect samples for submittal to the laboratory for various parameters. Immunoassay test kits were employed to determine sample locations where SVOCs may have been the predominant contaminant instead of VOCs. The start of work plan production through he completion of field activities took approximately ten months.

Savings Realized

It is very probable that embracing the technology tools allowed targeted sampling which halved the analytical cost that would have been incurred by grid sampling. This results in an immediate savings of $230,000. An additional savings of up to $150,000 is realized by being able to avoid production of a second set of work pans, and a second mobilization and second full-blown field event. A second minor field event is now anticipated, but with very limited scope and relying heavily on the original work plans.

Overall Results

The BCT partnering team realized early on that even greater savings will be realized down the road by having less extraneous data to carry through the RI/FS process. Targeted sampling, designed by employing various expertise from all team members, allowed for sampling and analysis of locations where the resulting data would be most beneficial in decision making. Real cost savings reflected in trimmed analytical submittals and smaller field events are actually only exciting sideline benefits.

NAVAL AIR WARFARE CENTER INDIANAPOLIS
Indianapolis, Indiana
BRAC Cleanup Team Partnering Successes

Original Conditions

Navy and their contractors would create draft work plans or reports virtually in a vacuum, and submit an entire document or document set to regulators, who would then review the document independently of each other and independently of other team members. Typical results have historically included producing an unacceptable work plan by relying on inappropriate guidance documents, leaving other contractors involved at the site completely in the dark about site activities, and regulator comments that conflicted between state and federal agencies, leading to improper interpretation by Navy and contractors in revisions, perpetuating the cycle.

Original Approach

A work plan or report was developed into a complete document, with appendices and references. The draft document was submitted for regulatory review. Regulatory review produced comments requiring comment/response letters for resolution and clarification. The document would be revised based on comment resolution, and resubmitted. A second round of regulatory review would produce additional comments, requiring a second resolution effort, and an additional revised submittal.

Results of Original Approach

The cycle from identification of a need for a particular document through regulatory approval would require about one year.

How Partnering Was Applied

At partnering meetings, which include regualtors, Navy, facility representatives, and all major site contractors, updates on document development were presented and discussed. Analytical data was presented in draft form, where necessary, to support a draft conclusion or direction. This resulted in buy-in for maor document components pior to formal submittal. Partneering team rules ensured that professionalism of all team members was maintained during all discussions. Relationships have developed so that team interaction can also proceed outside of the meetings. Direct comment between commentor and drafter is encouraged.

Savings Realized

Savings applied so far to the EBS, RI/FS Work Plans, UST Work Plans, Hydrogeological Framework Work Plans, and RI reports probably exceed $150,000, based on savings recognized in limiting revisions and resubmits by addressing issues through partnering team meetings.

Overall Results

The NAWC team, the first team in Region V to embrace partnering, is convinced of the resulting time an dollar savings. In addition to Navy and regulators, contractors (who are treated as equals in partnering), actually assume ownership in projects. Technical aspects of documents are improved by reviewing team member's data needs prior to and during document development, rather than relying on the laborious comment resolution process for corrections/clarifications. Additionally, the time savings realized in the study phase accelerates he onset of corrective actions which will benefit human health and the environment and speed base transfer.

NAVAL AIR WARFARE CENTER INDIANAPOLIS
Indianapolis, Indiana
Concurrent Field Events

Original Conditions

The NAWC site needed to complete the Remedial Investigation/Feasibility Study (RI/FS) process, and there was virtually no exiting analytical or geologic, information available to serve as a foundation for work plan development. Former Leaking Underground Storage Tank (LUST) sites were known to exist, although leaking tanks had been removed, or at least removed from service. UST inventory and inspection information was not complete to a degree suitable for closure or transfer of the site.

Original Approach

The RI/FS process would begin with the RI/FS contractor collecting hydrogeologic information and developing work plans in consideration of site specific geologic and hydrogeologic characteristics. At the completion of the RI/FS process, LUST sites and other sites identified through the RI/FS process would be slated for remedial activity.

Results of Original Approach

Known or suspected environmental contamination from LUSTs could remain unaddressed for years while the RI/FS process proceeded.

How Partnering Was Applied

The hydrogeologic framework was addressed early on through borings and monitoring wells installation. Details important for development of the RI/FS work plans were provided more rapidly while less time critical hydrogeologic investigation proceeded. UST and LUST sites were kept separate from the RI/FS process and addressed separately with a goal of accelerated remediation instead of study. The BCT partnering team agreed that only UST and LUST sites where further investigation was necessary, following tank removals and excavation of localized pockets of contaminated soils, would be moved into the RI/FS process. The RI/FS sampling team was still in the field when laboratory analysis became available indicating one UST site should be addressed by RI sampling and the BCT partnering team was able to smoothly agree real-time on a scope of investigation. Had the RI sampling team demobilized and submitted a report before the start of remedial activities, it is possible that an additional phase of RI sampling would have needed to be mobilized in the future to investigate any extensively contaminated LUST sites.

Savings Realized

Savings are principally time savings, since required activities are being completed concurrently instead of sequentially. Time savings could amount to several years for address of known or suspected LUSTs. Avoiding a subsequent RI sampling event mobilization to further investigate a single LUST site provides additional cost savings of approximately $30,000.

Overall Results

Team members worked with each other to exchange information quickly while continuing other aspects of their investigations which, while necessary, were not time critical. Regulators provided accelerated review cycles to help keep the concurrent field events in sync with each other, and were proactive in addressing issues which arose during the field events. It was necessary for all team members to commit and participate, and all team members now share in the feeling of accomplishment. The Restoration Advisory Board (RAB) has acknowledged the accelerated pace of field events.

NAVAL AIR WARFARE CENTER INDIANAPOLIS
Indianapolis, Indiana
Data Management Plan

Original Conditions

Increasingly large amounts of data are generated by environmental investigations. with continuous improvements in computer performance and ease of use of modern software, an increasingly effective way to compare, order, and assess data is by assembling it in a database format.

Original Approach

Each contractor would produce database formats which were excellent for assisting in the production of their own reports and other deliverables. Regulators, reviewing a deliverable, would frequently need to compile their own database to understand the information provided to them or validate the conclusions which were provided by database output. Contractors would produce their deliverables using database formats which served them best. Unfortunately, database formats were not frequently compatible between various contractors and regulators.

Results of Original Approach

Contractors or regulators wishing to utilize information collected by another party frequently had to manually type all information into their own database built from scratch, creating a tremendous opportunity for error and typically requiring weeks of time. At best, even where manual data entry was not necessary, hours of time were required to reconfigure an existing database so that "0" would not be interpreted as "O" for example. Also, some databases could recognize "12" while others would require "0012".

How Partnering Was Applied

Contractors and regulators were able to decide on an operating system which makes all contractor and regulator databases compatible, eliminating the manual data reentry scenario. Then, the BCT partnering team developed the Data Management Plan (DMP). The DMP specifies how each field in a database entry will be interpreted. For example, sample numbers will be uniformly ten digits long. The first three will designate the sample site, the next two are type (from a mutually agreed menu), the next three the location, and the final two are depth. Coordination is required even for seemingly minor issues to ensure correction performance, for example depth was agreed to be entered in feet. (Imagine the potential problems if one renegade contractor entered depth in inches!) Having established standards, the DMP was extended even to subcontractors working for contractors. Surveyors were required to report survey results in a very specific format and submit computer disks containing the results which can then be read directly into databases.

Savings Realized

Savings are not easily measured, but are probably $20,000-$30,000 minimum in data entry an database reconfiguration.

Overall Results

Adherence to the DMP will promote exchange of data between all BCT partnering team members and will minimize manual data entry work. Databases can then have more information from which to draw when queried to sort data and provide output. Compatible databases will also enhance visual presentations when combined with Geographical Information System (GIS) presentations, which are becoming increasingly common means of effective communication of investigation results.

NAVAL AIR WARFARE CENTER INDIANAPOLIS
Indianapolis, Indiana
Data Quality Objectives (DQOs) Process

Original Conditions

The NAWC site needed to complete the RI/FS process, and there was virtually no existing analytical information available to serve as a foundation for work plan development.

Original Approach

Any area where no information was available would potentially need to be sampled. Frequently the Navy was effectively required to sample to confirm that there had not been any release of hazardous contaminants or other environmental impacts, i.e., sample to confirm clean.

Results of Original Approach

Much data was collected and dragged through the RI/FS process which probably did not need to be collected since it could not advance the process. Sampling was conducted at areas where there was no agreed reason to sample. No reasonable uses were able to be identified for the data before it was even collected.

How Partnering Was Applied

Data Quality Objectives (DQOs) were adopted by the NAWC BCT partnering team. A DQO fundamental is to not collect any data until the team reaches consensus on how the data will be used. The team realized that just because no information was known about an area, it was not always necessary to sample there. Unless some indicators reasonably confirmed that an areas was likely to have been involved with hazardous substances or a release had occurred, the BCT partnering team acceptable that sampling was not necessary. If an area became subject to sampling, the sampling program was then constructed according to DQOs by addressing the question, "What data is necessary for the team to make a decision?". For example, if a subject area was to be addressed through risk assessment if contamination was identified, the team supported a sampling plan to provide the data necessary to enable risk assessment.

Savings Realized

It is very reasonable to assume that twice the level of field activity would have been necessary, and twice the number of samples would have had to have been collected if the BCT partnering team did not effectively establish the cap for the sampling event by determining up front what level of sampling would able site decisions. This represents a $360,000 savings.

Overall Results

Establishing end uses for data up front resulted in helping to ensure that members of the BCT partnering team were in agreement about what data was being collected and how it would be used. There cannot be a more fundamental way to enable an RI/FS investigation to proceed which results in confidence that all data needs will be met for all BCT partnering team members.

NAVAL AIR WARFARE CENTER INDIANAPOLIS
Indianapolis, Indiana
Environmental Justice

Original Conditions

The NAWC Indianapolis BRAC Cleanup Team (BCT) set a goal of increasing Restoration Advisory Board (RAB) attendance, and therefore RAB effectiveness, by expending additional effort to ensure that the RAB represented various socioeconomic and demographic groups. Without this additional level of effort, the BCT felt that lower RAB attendance would be evident, resulting in a less informed community. Since a less informed community results in less trust of government agencies and contractors participating in the investigation and cleanup, less trust about the effectiveness and protectiveness of the final remedies would result.

Original Approach

RAB members are recruited by inviting them to apply for formal RAB membership. A selection process follows, to ensure that various community groups that have applied are then afforded representation. Conventional notifications of the opportunity to apply include newspaper advertisements and word of mouth. These conventional notifications frequently do not reach all socioeconomic and demographic groups. Some groups will miss the opportunity to participate because they did not even know the opportunity existed, because they did not understand the process, or because they did not understand what their role in the process would be.

Results of Original Approach

Through ineffective notifications of the opportunity to apply, an initial RAB could be selected which would not be a true cross section of the community. However, recent regulations now require considerations of Environmental Justice (EJ) to ensure that community tracts where the minority percentage is increased and/or where the poverty rate is increased are included anyhow.

How Partnering Was Applied

The NAWC Indianapolis BCT continued with additional newspaper advertisements to solicit additional RAB members for more than a year after the RAB had been initiated. Minority-focused radio advertisements were actually used, on broadcast stations with various formats, to help ensure maximum exposure to the community. Interaction with the BCT resulted in existing RAB members being instrumental in these activities. Various BCT team members posted notifications, prepared by other members, in local businesses on bulletin boards or storefront windows in minority communities. Local regulatory agency representatives pursued personal contacts and phone contacts.

Savings Realized

The BCT feels expending this outreach effort early in the process will result in better later successes. The outreach minimizes the potential for surprises later, in the form of adverse reactions or comments to proposed remedies. Less time and effort will be expended to defend the selected course of action. Additionally, the most recent presidential executive order requires increased efforts, so this is less catch-up that the BCT will have to recognize later.

Overall Results

The extra emphasis placed on Environmental Justice by the NAWC Indianapolis BCT has resulted in increased participation on the RAB by members representing various community cross-sections. The NAWC Indianapolis facility has more than 20 RAB members. The RAB participation at this facility is noteworthy due to its relative lack of environmental issues. RAB members have expressed their appreciation for the effort and openness from the Navy and regulatory agencies. The BCT plans to build on this framework toward the public participation phases of remedy selection where the real savings should be realized.

NAVAL AIR WARFARE CENTER INDIANAPOLIS
Indianapolis, Indiana
Leasing the Site for Reuse

Original Conditions

According to Base Realignment and Closure (BRAC) legislation, the Navy is responsible for addressing environmental concerns prior to the property being available for reuse. However, many parties were gravely concerned about preserving jobs, and since potential buyers for the property had come forward, the Navy needed to facilitate mechanisms for a quick transfer of operation. When Washington, DC, the City of Indianapolis, and senior Navy officials determined that they could create a mechanism to transfer the facility and equipment which provided continued workforce employment, the BCT partnering team was faced with an aggressive schedule to ensure that Navy still met its environmental restoration obligation. This approach to transfer an active facility was termed "hot-transfer"

Original Approach

This type of hot-transfer was new territory; there was no original approach.

How Partnering Was Applied

The BCT partnering team was required to work together to develop lease clauses which would ensure access so that Navy was able to meet its continuing environmental obligations. A component of the lease was the Finding of Suitability to Lease (FOSL) which provided the Navy's assessment of the property environmental condition. The BCT partnering team actually produced this document for Senior Navy signature. The FOSL was supported by the Environmental Baseline Survey for Lease (EBSL). the EBSL was developed in its entirety by the BCT partnering team. Since the EBSL was an update version of the EBS produced earlier by the BCT partnering team, regulators were able to fast-track review cycles and contractors were able to quickly respond to comments to finalize this document. The facility was able to be transferred on schedule with all parties confident in the navy's commitment and their ability to meet their environmental obligation.

Savings Realized

Cost savings are not calculable. The BCT partnering team found itself in a position where if the lease signing schedule was met, no one would ever realize the enormous effort involved. However, if the team did not meet the schedule imposed on them and which they had no control over or hand in developing, the costs could have been tremendous. The lease signing could have been delayed, the buyer lost interest and moved on, jobs lost and the property vacant.

Overall Results

Team members are proud of contributing to an endeavor which preserved more than 2,000 jobs. Such a tangible measurement of success is especially welcome where successes are typically only measured by a document submitted or an excavation completed.

NAVAL AIR WARFARE CENTER INDIANAPOLIS
Indianapolis, Indiana
Process Closure

Original Conditions

Important individual process areas within the facility may not be environmentally fit to transfer. The Navy and the potential new owner were in disagreement over the impact of these areas on the overall sale, and regulatory agencies had concerns about the ultimate disposition of he hazardous elements of these operations. In the case of NAWC Indianapolis, the potential new owner had already gone on record as planning to discontinue the individual practices. The terms of the property sale would not be concluded until the potential new owner was assured that he would not assume any liability for environmental contamination remaining from a process he planned never to operate. The potential new owner did want the freedom to use the process area for some new operations, which precluded the common demolition scenario. Also, the property would lose some value with the loss of these developable areas, and the Navy would need to perform the demolition at its expense.

Original Approach

Demolition instead of revitalization was initially considered. Deed restrictions or other usage restrictions were also considered. Eventually, the most beneficial solution to all parties evolved. The navy would fund the decommissioning of the process areas, and their restoration back to basic, developable, interior building space. The potential new owner got his assurances via the regulatory agency providing consent on the activity. The Navy was effectively providing a modified "clean closure" on an area where this was not strictly necessary, and the state regulators were offering to approve a modified procedure when suitable confirmatory analytical data was provided.

Results of Original Approach

The result of the original approach is that the potential new owner would not have full freedom to use the facility for intended uses. An inconvenience for the potential new owner would result in a lesser realized property value for the Navy. Regulatory concern over the potential for unidentified remaining contamination would remain. Delays in the transfer of the property could be expected.

How Partnering Was Applied

The BCT decided to determine a course of action prior to process closure, which would result in regulatory approval for transfer when completed. This required detailed work plans provided by the Navy, followed by approvals from regulatory agencies. The regulatory agencies then promised to provide acceptance documentation when the agreed upon work as outlined in the approved work plan was completed and established clean-up levels have been met. Without the trust provided through the partnering process, it is unlikely that this scenario could have evolved.

Savings Realized

The savings are not easily translatable to dollars, but are still evident. The Navy realized savings by being able to forego complete demolition, followed by reconstruction activities. The Navy also realized greater property value in the sale. The navy also benefited by being able to accelerate property transfer. The regulatory agency benefits by the Navy essentially performing a "clean closure" at a site where this was not strictly necessary, thereby lessening the potential for remaining unknowns. The potential new owner benefits by realizing greater immediate usability of the entire property.

Overall Results

The former process areas will now be able to be transferred without usage restrictions. The property transfer timeline was kept on an accelerated track. A safer working environment is provided for current and future employees. Navy has incurred little expense to maximize property values, and increase flexibility in reuse of these areas.

NAVAL AIR WARFARE CENTER INDIANAPOLIS
Indianapolis, Indiana
Restoration Advisory Board (RAB)

Original Conditions

RAB meetings were the domain of Navy and regulator and did not interact with the BRAAC Cleanup Team (BCT) partnering team. Navy contractors and other specialists did not fully participate in RAB meetings.

Original Approach

RAB meetings met the letter and spirit of the law, but failed to make use of resources to involve and educate the community.

Results of Original Approach

RABs frequently saw sharp attendance drop-offs over time, or even complete non-attendance. All information was not being transferred to the community.

How Partnering Was Applied

RAB meeting preparation is a paramount BCT partnering team meeting agenda item on the day of the RAB meeting. RAB agenda items are fine-tuned in this forum, and BCT members review presentations to be provided to the RAB that evening. This allows partnering team members to anticipate and be prepared for RAB concerns and questions. On the day following the RAB meeting, the BCT partnering team agenda contains a RAB meeting critique. The critique discuses how presentations were received and how they could have been improved. The critique is an important opportunity for the BCT partnering team to exchange and interpret comments received from RAB members. RAB members are on a first-name basis with Navy, regulators, and contractors and frequently discuss mutual interests outside the RAB agenda. The RAB interacts with an develops trusting relationships with BCT partnering team members.

Savings Realized

The specific cost and saving are not yet quantifiable. The BCT partnering team expects that eventually the FS public comments will reflect the efforts of continuing to educate and involve the community throughout the process.

Overall Results

RAB meeting attendance is steady and is disproportionately high considering the small size of the NAWC facility and its relative clean environmental condition. The fact that high interest and participation is maintained where minimal threat to human health and the environment exists acknowledges the successes of the BCT partnering team in keeping the RAB agenda interesting, informative, and timely.

JEFFERSON PROVING GROUND
Madison, Indiana
Paper Mill FOST

Original Conditions

The Army wished to transfer a 40-acre parcel of the JPG cantonment area, which included 2 RI sites with soil contamination.

Original Approach

State and Federal environmental regulators unable to concur with FOST in it's original condition. Regulators wanted Army to cleanup RI sites within the proposed transfer parcel before agreeing with transfer. Delaying transfer until cleanup of RI sites would slow economic reuse and development of JPG.

Results of Original Approach

No consensus among the JPG BCT members, which resulted in a stalemate between the Army and the regulators. The ultimate buyer could not buy the property with the FOST being completed.

How Partnering Was Applied

The JPG BCT members utilized the consensus building partnering process instead of the traditional confrontational approach to resolve the impasse. Acreage of the proposed FOST was reduced, deed restrictions where invoked, a buffer zone was created and access controls established. The JPG BCT utilized their expertise and surveyed the proposed site, which expedited the project by not using contractors.

Savings Realized

JPG BCT members completed an expedited plan, which shortened the transfer process by approximately 1 year and allowed for an earlier transfer of the property. The State of Indiana Department of Transportation (INDOT) was able to obtain the land while they had funding available. The JPG BCT members saved a minimum of $10,000 modifying the FOST themselves.

Overall Results

The State of Indiana benefited from this JPG BCT partnering action and is an anchor tenant at this site. The INDOT purchase established the legitimacy of the redevelopment of JPG as the primary tenant. INDOT redevelopment of this site will exponentially benefit the local citizenry.

JEFFERSON PROVING GROUND
Madison, Indiana
Wind Chimes

Original Conditions

Six streams enter and exit Jefferson Proving Ground (JPG) providing potential access to the area through the floodgates, creating security issues. The floodgates were removed prior to base closure due to periodic flooding of surrounding private property. JPG property is a potential safety hazard to personnel or livestock entering the property.

Original Approach

Cable with a "No Trespassing" sign was used to deter personnel and livestock from entering the JPG property. People have been observed on the site despite the trespassing signs.

Results of Original Approach

State and Federal environmental regulators concerned that prevention of "unknown access" was not being met with the "no trespassing" signs. No physical impediment to prevent access to the property was in-place, which could have created potential safety and liability issues to arise between the public and the Army.

How Partnering Was Applied

The JPG BCT brainstormed several alternatives including fencing, which had a higher cost for maintenance, repair and replacement. The Team reviewed a new, inventive and collaborative approach proposed by the Army that was cheaper and more effective than the "no trespassing" signs. The Army Corps of Engineers invented and designed the "Wind Chimes". The chimes block access no matter what the weather or stream conditions exist at the stream entrances and exists. The BCT team perform the field oversight completed after project construction, thus saving the Army contractor fees.

Savings Realized

(need est. cost of floodgates from COE).

Overall Results

The "wind chimes solution saved money by not needing to maintain fences, buy fencing materials or reconstruct new floodgates. The "wind chimes" solution being a non-stationary fence is always up and running and isn't dependent on the weather. There is an overall reliability and consistency of the "wind chimes" which permanently decreases the liability and increases the safety at JPG.

NAVAL INDUSTRIAL RESERVE ORDNANCE PLANT (NIROP)
Fridley, Minnesota
Design of Phase II of the Onsite Treatment System for Operable Unit 1

Original Conditions

The Navy relied on the old contracting process and procedures for producing plans and specifications for the design.

Original Approach

The Navy followed the typical fixed price federal procurement process and procedures.

Results of Original Approach

The Navy continued to experience delays in getting the design done and delays in getting the construction of Phase II started.

How Partnering Was Applied

Partnering allowed the NIROP Partnering Team to think outside of the box. The regulators expedited their reviews of the plans and specifications. The Navy was able to use the partnering process to expedite the contracting oversight of Navy staff involved in the review of the contracting process.

Savings Realized

The Navy will stop paying approximately $750,000 in annual sewer fees to the POTW when Phase II begins operation.

Overall Results

The Navy is approximately half way through the construction of Phase II.

NAVAL INDUSTRIAL RESERVE ORDNANCE PLANT (NIROP)
Fridley, Minnesota
Establishment of a NIROP Site Management Plan

Original Conditions

The Navy and the regulators interacted with one another under a vague understanding of the schedule requirements of the Federal Facility Agreement.

Original Approach

The Navy and the regulators had varied interpretations of the schedule requirements of the Federal Facility Agreement.

Results of Original Approach

The EPA took enforcement action against the Navy, issuing the Navy a demand for stipulated penalties for noncompliance with the FFA schedule.

How Partnering Was Applied

The NIROP Partnering Team collectively defined deliverables with an associated schedule for the upcoming and following years with the ability to revise the SMP as needed.

Savings Realized

The Navy has experienced no more stipulated penalties; reduced schedule delays and operational expenses.

Overall Results

The NIROP Partnering Team has improved the timeliness of its work.

NAVAL INDUSTRIAL RESERVE ORDNANCE PLANT (NIROP)
Fridley, Minnesota
Groundwater Investigation in Anoka County Riverside park

Original Conditions

The Navy and the regulators believed that the residual groundwater contamination in Anoka County Riverside Park would naturally degrade. No field work was viewed as necessary to track the assumed degradation.

Original Approach

The Navy and the regulators would wait to see if the level of contamination would decline with time.

Results of Original Approach

Impacts of the residual groundwater contamination to the Mississippi River and to the consumers of drinking water from the Minneapolis Water Works were not fully understood.

How Partnering Was Applied

This was the first project to which the partnering process was applied from the beginning of the project at the NIROP Site. Citizen involvement due to the partnering process cause the NIROP Partnering Team to re-evaluate what was known about the groundwater contamination in the park. The Team quickly developed a plan of action; reassessed the impact of the contamination on the Mississippi River; and conducted a field investigation without resorting to the formal Superfund process as envisioned in the FFA.

Savings Realized

The savings at the present time are estimated to be approximately $1 million and approximately two years of formal Remedial Investigation work.

Overall Results

The savings in time will allow for an accelerated remedy selection process to cleanup the groundwater and the monetary savings will allow the Navy to spend its limited DERA funds more wisely.

NAVAL INDUSTRIAL RESERVE ORDNANCE PLANT (NIROP)
Fridley, Minnesota
Hydraulic Containment Established for Operable Unit 1

Original Conditions

The Navy and the regulators, the Minnesota Pollution Control Agency (MPDCA) and the U.S. Environmental Protection Agency (EPA) could not reach agreement on whether or not containment of the trichloroethylene (TCE) groundwater plume had been achieve.

Original Approach

The original approach was to send letters and reports back and forth between the Navy and the regulators and to argue about interpretations of data at meetings.

Results of Original Approach

The Navy and the regulators could not come to agreement on this issue.

How Partnering Was Applied

The members of the NIROP Partnering Team identified common goals; backed away from entrenched perspectives; and reached consensus to move forward with the design of Phase II of the remedy for Operable Unit 1.

Savings Realized

The Navy will stop paying approximately $750,000 in annual sewer fees to the POTW when Phase II begins operation.

Overall Results

Construction of Phase II of the remedy for Operable Unit 1 is underway.

Original Conditions

The Navy would draft work products and send them "over the wall" to the regulators who would review the work products and send review responses back over the wall.

Original Approach

The "over the wall" approach was typical of the way the Navy and the regulators conducted the drafting and reviewing of all major work products.

Results of Original Approach

The approach resulted in continued delays in beginning field work with associated inflationary increases in the cost of field work.

How Partnering Was Applied

The NIROP Partnering Team began reaching consensus on the scope of work products during, not after, work product development.

Savings Realized

It is too early to tell exactly what the savings are in time and money.

Overall Results

The new approach has resulted in accelerated work product drafting and review as well as a better sense of consensus and ownership of the final work products.

NAVAL INDUSTRIAL RESERVE ORDNANCE PLANT (NIROP)
Fridley, Minnesota
Site Groundwater Model and Geographic Information System

Original Conditions

The MPCA rejected the groundwater model. The "over-the-wall" approach led to confusion about the groundwater model and resulted in delays by the Navy about how to proceed.

Original Approach

Again the original approach was the "over-the-wall" approach.

Results of Original Approach

The original approach resulted in a groundwater model hat neither the Navy nor the regulators had confidence in.

How Partnering Was Applied

Again the NIROP Partnering Team identified a common goal; recognized the need for a new groundwater model and the usefulness of tracking data via a GIS; and the team members began the design phase at the beginning of the project.

Savings Realized

It is not known how much time and money will be saved at this point in time; however, the team believes that spending the money now ill result in long-term savings in the future.

Overall Results

The result will be a groundwater model that allows the team to better evaluate existing groundwater remedies and will allow the team to better evaluate any future remedies. The model will be more strongly owned by all team members.

RICKENBACKER AIR NATIONAL GUARD BASE
Columbus, Ohio
ORIGINAL PARTNERING SESSION

Original Conditions

A BRAC Cleanup Team (BCT), a three person team consisting of members from the DOD, U.S. EPA and the State EPA, was created to make decisions for the environmental clean-up of Rickenbacker Air National Guard Base. The BCT was assisted with input from the BCT Project Team and the Restoration Advisory Board (RAB). The goal of the BCT was to achieve a fast-track clean-up of the base so that the base could be transferred to the local community for beneficial reuse.

Original Approach

The BCT decision-making process toward the environmental cleanup was basically adversarial and legalistic in nature. Issues were presented at meetings with little prior knowledge of all parties. Everyone was not being kept apprised of all work being accomplished or proposed. Discussions focused on one or two issues and were usually one-sided with the presenter attempting to convince others of the merits of his/her position. There was a lack of communication and trust.

Results of Original Approach

Decisions on environmental restoration actions were not being reached in a timely manner or agreed upon by all parties due to the difficulty in resolving issues. Progress was slow causing delays to environmental projects.

How Partnering Was Applied

A two-day partnering workshop was held on November 13-14, 1995. Partnering brought together the key players from each organization as well as their technical support staff. Through the partnering process, representatives from each organization worked together as a team and took ownership for the success of the program: to achieve a safe, expeditious and economical environmental cleanup.

The principals of the partnering program are to maintain full compliance with all existing environmental laws and to reach consensus on all issues. The fundamental key to this formal partnership is a commitment by each member to work toward the common goal to the best of his/her ability. A facilitator is present at each meeting to resolve disagreements, to keep the discussions focused, and to ensure that consensus decisions are reached.

Savings

Although dollar savings from the partnering process cannot be quantified, the financial benefits of spending less time disputing technical issues and more time making time-critical consensus decisions are apparent in

the better working relationships between BCT members.

Overall Results

Through the use of partnering, the BCT, its Project Team, and the RAB have established open lines of communication and a commitment to a cost-effective and efficient environmental restoration. Issues are being resolved in a timely manner and work is progressing at a rapid pace. Meetings are shorter and more productive. Input from all parties is encouraged and respected.

RICKENBACKER AIR NATIONAL GUARD BASE
Columbus, Ohio
18 MONTH SCHEDULE

Original Conditions

The BCT was charged with a five year goal to achieve the environmental cleanup and subsequent transfer of Rickenbacker Air National Guard Base to the local community for beneficial reuse.

Original Approach

The BCT established general goals for completing major tasks to meet the transfer date of Rickenbacker Air National Guard Base. Only short notice was provided to various parties as to when they were required to accomplish their respective activities to accomplish the next step. Details of the environmental status of projects were only brought up at meetings when issues needed to be resolved so no one was fully aware of the status of each and every environmental project. The length of this process was not defined; however, it was felt that somehow things would get done.

Results of Original Approach

One of the main problems of not having a defined schedule to track significant milestones was the inability for parties and their technical representatives to plan their work requirements. Subsequently, reviews of documents and critical inputs by various parties took longer than normal. It was difficult to project a remediation program and cost budget. As a consequence, work was sometimes delayed.

How Partnering Was Applied

Through partnering, the BCT devoted one planning session to establish decision priorities and construct a time line for completion of each significant milestone. Input was solicited from all parties and an eighteen month plus schedule was developed. Each organization could then project when its representatives would be responsible to accomplish tasks and could plan to have the necessary resources and personnel available to accomplish the work. The facilitator assisted by encouraging participants to use their best professional judgment and experiences to move forward with the existing information.

Savings

Although dollar savings from the planning process cannot be quantified, the schedule establishes dates and the time frame in which all environmental and reuse actions will be complete. The establishment of these goals and the coordination of all BCT members to meet the schedule will inevitability save time.

Overall Results

An 18 month schedule color coded GANTT Chart was published and distributed to each BCT member. The schedule lists the time line path for completion of all environmental and reuse actions. In addition, a formal process for identifying and validating changes to the schedule was promulgated

and approved. Anticipation and advance planning by the BCT have allowed various steps of the projects to remain on schedule or to be accomplished earlier than projected.

RICKENBACKER AIR NATIONAL GUARD BASE
Columbus, Ohio
EFFECTIVE MEETINGS

Original Conditions

All BRAC Cleanup Team Project Team (BCT PT) meetings were called and chaired by the BRAC Environmental Coordinator who also prepared the agendas.

Original Approach

Monthly BCT PT meetings were loosely structured with no time limits allotted for discussion of each topic. Minutes were taken but key decisions were not always documented. There was no plan to achieve specific results or decisions by the end of each meeting. The responsibility for planning and conducting all meetings always fell on the BRAC Environmental Coordinator with little input from other BCT members. Two day meetings were the norm.

Results of Original Approach

BCT project team meetings were long, heavy on talk, and slow on progress.

How Partnering Was Applied

Partnering identified a need for better meeting management. The BCT PT members were trained on how to conduct effective and efficient meetings. The importance and role of a facilitator was established. To promote better meeting management, a fourth member was added to the BCT to form the Consensus Group. These four members rotate and share the responsibility of chairing the BCT PT meetings. Each Consensus group member also shares the responsibility to run effective meetings to promote site progress.

Savings

Before partnering, the annual costs of holding monthly BCT PT meetings was estimated at $80,000. With better managed meetings, the time to conduct the meetings was reduced resulting in an approximate annual savings of $37,000.

Overall Results

Since the advent of partnering, two day meetings have become half day meetings. Meetings are driven toward making consensus decisions. The decisions are clearly documented. The monthly BCT project team meetings have become the focal point for managing the environmental clean-up program at Rickenbacker ANGB.

April 1999

RICKENBACKER AIR NATIONAL GUARD BASE
Columbus, Ohio
ESTABLISHMENT OF A SITE MATRIX

Original Conditions

The BRAC Cleanup Team (BCT) was faced with the task of assessing possible contamination and reaching consensus on the disposition of Installation Restoration Program (IRP) Sites and additional areas of concern (AOC).

Original Approach

At monthly BCT project team meetings, discussions were focused only on those IRP sites undergoing additional investigation. The remaining sites were set aside for later discussions. A course of action for each site was not established.

Results of Original Approach

The BRAC environmental coordinator had a general knowledge of the status of IRP sites; but this information was not available in hard copy to other BCT members. Additionally, consensus decisions had not been made on the course of action for most sites.

How Partnering Was Applied

After partnering, the BCT met in a group session and established a matrix for each IRP site and AOC . The completed matrix resulted in an action plan which showed the current status for each project and actions requiring to be completed prior to site closure.

Savings

Although dollar savings from this action planning process cannot be quantified, the site status table is an excellent management tool that tracks all environmental actions to be completed prior to property transfer.

Overall Results

A site matrix was published. It includes each IRP site/AOC, its description, current status, next action, and the action assignments required by each BCT member. The establishment of this table allows all BCT members to assess the overall status of Rickenbacker's environmental program.

RICKENBACKER AIR NATIONAL GUARD BASE
Columbus, Ohio
PHASE II REMEDIAL INVESTIGATION/FEASIBILITY STUDY (RI/FS) WORK PLAN

Original Conditions

The established process for the execution of an RI work plan requires the production of an internal draft, draft, draft final, and final documents.

Original Approach

Typically, the internal draft was reviewed by the Air Force and their environmental consultants. The regulatory agencies reviewed the draft documents. The draft final documents were revised to incorporate regulatory comments. The final documents became the consensus documents for work plan approval.

Results of Original Approach

Results of the approach were both costly and time consuming.

How Partnering Was Applied

Through partnering, the BCT agreed to eliminate the draft final document. In addition, the BCT project team utilized both an "on-board" review meeting and "teleconferencing" to discuss and resolve any substantive technical issues with the plans. This allowed issues to be discussed and resolved during and around the monthly BCT meeting time frame.

Savings

Streamlining the RI work plan process saved approximately $30,000 and five months in time.

Overall Results

Beneficial results are identified by the cost and time savings. Technical merits of the document were also strengthened during the "on-board" review meeting and several teleconferences. An approved RI work plan was achieved in late March 1996. Field work began by mid-April with sampling and investigative work taking place in the more clement Spring-Summer as opposed to the Fall-Winter period that would have resulted from the original schedule.

RICKENBACKER AIR NATIONAL GUARD BASE
Columbus, Ohio
USE OF TEMPORARY WELL SAMPLING LOCATIONS

Original Conditions

During the Phase II Remedial Investigation (RI) characterization of the magnitude and extent of groundwater contamination was an important objective of the field effort.

Original Approach

Permanent monitoring well locations would be installed and sampled to assess the groundwater conditions at Rickenbacker Air National Guard Base.

Results of Original Approach

This approach of installing monitoring wells for each potential area of groundwater contamination is expensive and time consuming to the overall field investigation phase. Costs can range from $5000-$10,000 for each monitoring well installed.

How Partnering Was Applied

Partnering emphasized the need for the BCT project team to focus on project schedules and overall remediation completion dates. With the RI already behind schedule, the BCT project team explored ways to accelerate the RI process and to reduce cost. It was determined to take a phased approach to the RI field effort. The first phase of field work included the use of sampling temporary monitoring well locations (Geoprobe sampling) to determine the location of areas of potential groundwater contamination. Upon detection of potential contamination the second phase of field work was implemented. A monitoring well would be installed and sampled to characterize the groundwater and provide the analytical data which would be used for the baseline risk assessment. This phased approach would eliminate the need to install monitoring wells in unimpacted areas.

Savings

Geoprobe sampling saved the project approximately $250,000.

Overall Results

Use of Geoprobe sampling allowed the team to look at the analytical results prior to determining the necessity for monitoring well installation. This phased field effort saved money as well as allowed the team to make time critical decisions.

RICKENBACKER AIR NATIONAL GUARD BASE
Columbus, Ohio
RISK ASSESSMENT ASSUMPTIONS DOCUMENTS (RAAD)

Original Conditions

Review of the baseline risk assessment occurs at the submission of the Draft Remedial Investigation (RI) Report. The regulatory agencies serve as the approving authority for whether the human health risk assessment adequately characterize potential site risks to human health and the environment.

Original Approach

The review of the risk assessment could involve several revisions due to differences in the determination of chemicals of concern, background and exposure point concentrations; potential exposure scenarios not being evaluated; different values could be used in risk calculations , etc.

Results of Original Approach

Review time and revisions to produce an acceptable baseline risk assessment typically takes one to two years.

How Partnering Was Applied

The partnering team established a structured approach to solve risk assessment problems prior to their occurrence. As a result, the BCT project team published a risk assessment assumptions document that spelled out the conceptual site models, the chemicals of concern, exposure point concentrations, and risk characterization. A meeting was convened in August 1996 to come to consensus on the parameters for handling the baseline risk assessment in the RI.

Savings

By establishing the framework for the risk assessment up front, the time required for approval of the risk assessment has been substantially reduced.

Overall Results

All issues concerning the human health risk assessment for the RI Report were resolved within nine months.

RICKENBACKER AIR NATIONAL GUARD BASE
Columbus, Ohio
USE OF GLOBAL POSITIONING SYSTEMS FOR DITCH SYSTEM LOCATIONS

Original Conditions

All sampling locations in the ditch system are normally located by a registered surveyor for tracking purposes and placement onto maps.

Original Approach

The surveying of sampling locations by a registered land surveyor would be required for each ditch sampling location.

Results of Original Approach

This approach of using a registered surveyor for each sample is expensive and time-consuming to the overall cost of the field program, especially for remote locations.

How Partnering Was Applied

Through partnering, the BCT Project Team agreed to use Global Positioning System (GPS) technology. With the use of a backpack GPS unit, the coordinates of the samples can be taken simultaneously during the sampling process by the field crew, thus eliminating the need of the surveyor. Coordinate accuracy meets the accuracy requirements of a surveyed effort for the ditch system.

Savings

GPS surveying cut the surveying time by 40%, for a saving of $20,000.

Overall Results

Use of GPS shortened the field effort for the Phase II RI from 24 weeks to 10 weeks.

RICKENBACKER AIR NATIONAL GUARD BASE
Columbus, Ohio
INFORMATION/COMMUNICATION IMPROVEMENT

Original Conditions

The BCT was empowered to make all decisions concerning the environmental remediation of the former Rickenbacker ANGB. Issues requiring consensus decisions were brought up, discussed, and resolved at the monthly BCT project team meetings.

Original Approach

Information required to make decisions was not always given to BCT members until the day of the meeting.

Results of Original Approach

Due to the number of sites and the complexity of issues and non-exchange of important information, the BCT was hard pressed to find timely solutions to all the problems presented to them.

How Partnering Was Applied

Partnering identified inefficiencies in the BCT members making decisions during the BCT project team meetings. The BCT project team determined that presentation of all information at least one week prior to BCT project team meetings as well as occasional telephone conference calls between project team meetings would facilitate the coming to BCT consensus decisions.

Savings

Use of teleconferencing and timely information exchange reduced BCT project team meetings from two days to four hours or less.

Overall Results

Teleconferencing and timely information exchange emerged as a better way to resolve technical issues. Participants come to the phone or the meetings prepared to discuss problems. Teleconferencing also makes it possible to have "hard to schedule" technical experts in attendance. BCT members are able to focus on issues and make definitive decisions.

RICKENBACKER AIR NATIONAL GUARD BASE
Columbus, Ohio
STREAMLINED CONTRACTING

Original Conditions

The Air Force budgeting process required that environmental investigation and remediation projects be validated and approved prior to funding and execution. Only after a firm program was established and funded, could action be taken to procure a contractor for an investigation or remediation.

Original Approach

Typically, the AFCEE team leader waited until the environmental program had been firmly approved before forwarding projects to the contracting office for procurement. Quite often this did not occur until late in the first quarter or the beginning of the second quarter of the fiscal year. Because of uncertainties associated with remediation projects, a "cost plus" contracting mechanism was selected as the contracting avenue. This procurement avenue required a six month lead time for the contracting officer to solicit, evaluate, negotiate, and award contracts.

Results of Original Approach

Because of contracting lead times, environmental projects were not awarded until the fourth quarter of the fiscal year. In some cases, funding was withdrawn because contracting action could not be completed before the end of the fiscal year. Delays in one project caused a ripple effect, with follow -on projects also falling behind schedule.

How Partnering Was Applied

Partnering emphasized the need to monitor schedules more closely; and to look ahead to anticipate ways to accelerate project completion.. It became obvious that projects had to be awarded early in the fiscal year. The contracting process was streamlined to include the following time savers: Where appropriate, firm fixed price contracting mechanism were selected over cost plus fixed fee' or "cost plus award fee" methods. Maximum use was made of "time and material" contracts to gather data and results so that the remediation work could be better defined. Finally, requirements in statements of work were more precisely defined to avoid ambiguities that would make negotiations prolonged and difficult.

Savings

Intangible. However, both the FY 96 and FY 97 remediation programs were executed on time and as planned.

Overall Results

Seventy five percent of the projects in Rickenbacker's FY 96 program were awarded before the end of the second quarter; seventy five percent of the FY 97 program were executed before the end of the first quarter.

April 1999

GENTILE AIR FORCE STATION (DESC)
Kettering, Ohio
ABANDONMENT IN-PLACE OF FACILITY STEAM VAULT SYSTEM

Original Conditions

A total of thirty steam vaults, part of the steam heat distribution system were present at the site. Each steam vault was to be closed in place and had the potential to contain asbestos containing material (ACM).

Original Approach

The original approach to remediation included abandonment of the steam vault system in place. The vaults were to be demolished and debris to be removed to three feet. The vaults were then to be backfilled and compacted.

Results of Original Approach

The Regional Air Pollution Control Agency (RAPCA) required abatement of all asbestos within the steam vaults.

How Partnering Was Applied

Through partnering meetings with the City of Kettering, RAPCA, the U.S. and Ohio EPA, and the Air Force, a compromise position was obtained. It was determined that asbestos abatement would occur within the valve boxes of the vault systems in areas where the re-use plan could have potential impact to asbestos left in place. Nine vaults in areas being landscaped would be abandoned in place. This approach minimized future releases of asbestos, followed existing practices endorsed by U.S. and Ohio EPA, and supported future remediation if necessary. To accelerate the site re-use schedule and minimize the potential for future liabilities, the City of Kettering agreed to pay for the asbestos abatement of the nine vaults to be abandoned in place.

Savings

Partnering allowed the project schedule to proceed with minimal impacts to the site re-use schedule, which resulted in the City of Kettering implementing the re-use plan within budget constraints. The project was completed with a $20,000 under-run.

Overall Results

The vaults have been demolished according to the proposed plan from the partnering meetings.

April 1999

GENTILE AIR FORCE STATION (DESC)
Kettering, Ohio
REMEDIATION OF LOW LEVEL RADIOACTIVE WASTE

Original Conditions

Sites D4 and D5 were suspect locations of buried low level radioactive waste (LLRW). A Phase I Site Investigation indicated that, electron tubes may have been buried in these locations during the 1940s and 1950s. Further investigation was to be conducted to ascertain the location of any buried LLRW.

Original Approach

The original approach to Area D4 was to trench the areas in question, screen and characterize soils during removal, stockpile questionable materials on-site, and ship materials exceeding the regulatory limits to Envirocare of Utah.

The original approach to Area D5 was to investigate the soils in the area in question using Geoprobe® soil sampling. Radiologically impacted soil would be excavated, stockpiled, containerized, and shipped to Envirocare of Utah.

Results of Original Approach

Stockpiling of soils on-site may have presented a health and safety issue to the community as access to stockpiled materials would not be restricted.

How Partnering Was Applied

As a result of discussions between Jacobs, the U.S. and Ohio EPA, Wright Patterson AFB, the Radioactive Waste Management Office, and the Ohio Department of Health it was determined that the health and safety of the community may be compromised when the Base was turned over to local officials and access to stockpiled materials would no longer be restricted. A solution of transferring the material to Wright Patterson AFB for stockpiling and eventual shipment to the Hanford Nuclear Facility was suggested.

Savings

Partnering helped to provide a solution to the security of radiologically impacted materials which also resulted in significant transportation and disposal cost savings as well as time savings. The project was completed two months ahead of schedule and $220,000 under budget.

Overall Results

Overall, the accelerated project schedule supported an earlier than expected deed transfer from the U.S. Air Force to the City of Kettering, following approval of the No Further Remedial Action Planned document for this project.

April 1999

GENTILE AIR FORCE STATION (DESC)
Kettering, Ohio
REMEDIATION OF OIL/WATER SEPARATORS

Original Conditions

A total of ten oil/water separators (OWSs) were active at the site. The contents of the OWSs varied, but among the contaminants were oils, solvents, paints, acids, and laboratory chemicals. The OWSs were to be removed to support closure of Gentile Air Force Station.

Original Approach

The oil/water separators were to be excavated and the contents pumped out, characterized and contained, pending disposal. The area three feet around each separator was to be excavated and stockpiled. The oil water separators were to be demolished. The debris was to be removed and disposed. The excavation and over excavated material was to be sampled, characterized, and disposed. Following characterization the sites were to be backfilled, compacted and restored to original conditions.

Results of Original Approach

Typically, prior to a removal action, site specific cleanup levels are determined by characterizing the contents of the oil/water separators as well as investigating the area around the oil/water separators where releases to the environment may have occurred.

How Partnering Was Applied

As a result of meetings between Jacobs, the Air Force, and the U.S. and Ohio EPA, it was determined that the existing U.S. EPA Region 9 Preliminary Remediation Goals were applicable at this site. This eliminated the need to develop site specific clean-up levels, thus saving considerable time, effort, and money.

Savings

Partnering at this site resulted in the project being completed ahead of schedule and $20,000 under budget.

Overall Results

Overall, the accelerated project schedule supported an earlier than expected deed transfer from the U.S. Air Force to the City of Kettering, following approval of the No Further Remedial Action Planned document for this project.

GENTILE AIR FORCE STATION (DESC)
Kettering, Ohio
ACCELERATED NFRAP DECISION DOCUMENTS

Original Conditions

As part of the Phase II Remedial Investigation (RI), field investigations were conducted at fifteen sites. Five of these sites were in or near the City of Kettering's Parcel A, which was scheduled for property transfer in May 1997.

Original Approach

Typically, an RI encompasses the field work, evaluation of the analytical results, preparation of a report, and recommendations for either future work or no further action.

Results of Original Approach

It generally takes three to four months to evaluate the data and prepare the technical report. Review of the report, resolution of the comments and preparation of the final report usually takes another three to four months. At that time, No Further Response Action Planned (NFRAP) Decision Documents are prepared for those sites agreed upon in the final Remedial Investigation report. Total time from completion of the field investigation to preparation of the NFRAP documents is approximately six to eight months.

How Partnering Was Applied

The original approach would not meet the scheduled transfer of Parcel A from the Air Force to the City of Kettering. During the December, 1996, BCT Project Team meeting, this discrepancy was noted well in advance of the scheduled transfer date. This allowed sufficient time to plan backwards from the property transfer date and determine the necessary milestones. The Air Force's consultant was able to prepare a pre-RI report called Site and Risk Characterization for Parcel A by the next BCT Project Team meeting in January 1997. At the same time, the NFRAPs for the five sites were prepared and submitted to the BCT for review. The pre-RI report supplied the documentation and support for the NFRAPs.

Savings

If the partnering approach had not been applied to this situation, transfer of Parcel A to the City of Kettering would not occur on schedule. This would have been a costly delay for the City of Kettering.

Overall Results

The transfer of Parcel A to the City of Kettering will not be delayed by the approval of the NFRAP documents. The partnering approach resulted in frequent communication and early identification of schedule issues.

April 1999

GENTILE AIR FORCE STATION (DESC)
.Kettering, Ohio
ON SCHEDULE WITH AN ACCELERATED PROPERTY TRANSFER

Original Conditions

The reuse agency, the City of Kettering, wanted a rapid property transfer of Gentile Air Force Station for redevelopment. The Air Force, U.S. EPA and Ohio EPA had differing opinions on how to conduct Gentile's environmental investigation and restoration program which was required prior to property transfer.

Original Approach

Decisions on the environmental investigation and restoration program were not being reached in a timely manner nor were they agreed upon by all parties. Key individuals were suspect of one another's motives and intents. Meetings were inefficient and of limited productivity. Communication was strained.

Results of Original Approach

The rapid property transfer of Gentile Air Force Station to the City of Kettering (the re-use agency) seemed unattainable.

How Partnering Was Applied

Partnering was implemented early on in Gentile's restoration program in an attempt to get parties to work together toward a common goal: a timely transfer of the property to the community for redevelopment. Team members worked to develop a master schedule to accomplish environmental studies and cleanups. These activities were prerequisite to allow property transfers to the public. Representatives of the City of Kettering participated in developing the schedule so that their priorities for parcel transfers could be accommodated.

Savings

Although it is difficult to quantify savings in terms of dollars, it is clear that partnering has accelerated Gentile's restoration program and will allow the former Air Force installation to be available for economic reuse in record time. These outcomes will result in savings to the Air Force in terms of day-to-day reductions in government and contractor overhead, and it will create new jobs and an increased tax base to the local community. By September 1997, BancOne will begin operations as a credit card processing center generating approximately 2,000 jobs.

Overall Results

The Air Force, U.S. EPA, Ohio EPA, and the City of Kettering have been working closely together to ensure a timely and environmentally suitable transfer of Gentile Air Force Station to the City of Kettering for beneficial re-use opportunities.

April 1999

GENTILE AIR FORCE STATION (DESC)
Kettering, Ohio
RESOLVING PHASE I REMEDIAL INVESTIGATION (RI) COMMENTS

Original Conditions

The Phase I RI report was completed in May, 1996, and submitted for review by both the US EPA and the Ohio EPA. The review comments were lengthy and questioned fundamental issues such as data quality and the evaluation of background conditions.

Original Approach

The resolution of review comments of this magnitude could take several weeks of negotiating and some comments may never be resolved at all.

Results of Original Approach

Regulatory approval of the Phase I RI Report could not occur until comments were resolved.

How Partnering Was Applied

By using the concepts of partnering, including recognizing our common goals and developing a collaborative relationship, most of the comments were resolved during a two-day meeting. The remaining comments were resolved on a telephone conference call through compromising by all parties and re-evaluating the situation.

Savings

Re-sampling was minimized and was blended into the Phase II RI effort. Most of the data from the Phase I RI was deemed usable and therefore resampling was avoided. The Phase II RI was not delayed with an interim investigation or by lengthy negotiations and stalemate situations. Costly delays in terms of time and money were avoided.

Overall Results

Partnering allowed the efficient resolution of Phase I RI comments. This allowed the Phase II RI to remain on schedule and the overall project to remain on schedule.

GENTILE AIR FORCE STATION (DESC)
Kettering, Ohio
QUELLING A MEDIA SCARE

Original Conditions

During the Phase I Remedial Investigation (RI), potential sites across the base were investigated. The analytical results from soil, groundwater, and creek samples were compared to conservative risk-based screening concentrations. These values were calculated, based on the residential exposure assumptions, and were designed to screen out sites that did not require further investigation.

The draft Phase I RI report was released and a reporter misconstrued the risk screening process in a front-page newspaper article published the day of a RAB meeting. At the RAB meeting, several members of the public expressed concern about the Phase I RI findings.

Original Approach

Under usual circumstances technical documents are filed as part of the administrative record, in publicly-accessible locations. These documents are written with the technical reader in mind and are often confusing to various members of the public unfamiliar with technical terms and concepts used in environmental science.

Results of Original Approach

Alarming the public of the presence of chemical contamination on the base.

How Partnering Was Applied

The scientist who will be doing the risk assessment for the base has attended Project Team meetings since the beginning of the partnering effort. As a result, this risk assessor had participated in a number of discussions regarding base technical issues and was aware of both the results of the sampling and potential public concerns. The risk assessor attended the RAB meeting and effectively answered public questions and concerns regarding exposure to contamination from the site. The risk assessor was able to describe the risk screening concept, explain what the next step was, and assure the base neighbors that there was no imminent danger to chemical contamination.

Savings

The cost of losing public confidence cannot be monetarily measured. The partnering concept has allowed the BRAC Cleanup Team (BCT) access to appropriate technical disciplines so that questions and concerns can be handled immediately, thus preventing any loss of public trust.

Overall Results

The base closure and reuse is proceeding on schedule and with the support of the public.

April 1999

GENTILE AIR FORCE STATION (DESC)
Kettering, Ohio
ADDRESSING POTENTIAL GROUNDWATER CONTAMINATION

Original Conditions

The Phase I Remedial Investigation at the base indicated potential groundwater contamination in three areas, one of which was close to the western base boundary. Although there is no current use of the groundwater (and no reasonable expectation of future use), the BRAC Cleanup Team (BCT) became concerned over how the Air Force intended to complete site and risk characterization of the groundwater.

Original Approach

Remedial investigations are often conducted in phases since one field effort may not provide sufficient information to address all site characterization issues. Under usual circumstances the contractor would provide recommendations and design further investigation accordingly.

Results of Original Approach

The phased RI approach takes time (sometimes years to complete) and the overall site strategy is not always obvious.

How Partnering Was Applied

The partnering effort at Gentile allows all interested parties to become familiar with the process of reaching a common goal. At Gentile, this common goal is to transfer the property so that the City of Kettering can reuse it as an industrial park. The characterization of groundwater issues was a potential stumbling block since further characterization could interfere with City construction activities and property transfer. Public perception of groundwater contamination was an additional issue.

In order to work around this potential problem, the Air Force environmental contractor prepared a detailed position paper that laid out the site and risk characterization steps recommended for the base. The BCT then reviewed the procedure and offered some alternatives. During a Project Team meeting all parties agreed to a methodology that met City construction deadlines and that was designed to alleviate public concerns regarding groundwater uses.

Savings

The potential costs to the City if construction schedules are not met and buildings are not re-occupied are enormous. The development of a site groundwater strategy avoided these costs.

Overall Results

The reuse of the base by the City of Kettering is proceeding on schedule.

April 1999

GENTILE AIR FORCE STATION (DESC)
Kettering, Ohio
WEEKLY CONSTRUCTION/REMEDIATION FIELD MEETINGS

Original Conditions

In September 1996, five months prior to the closing of Gentile Air Force Station, the Air Force Base Closure Agency (AFBCA) leased over half of the property at Gentile Air Force Station to the City of Kettering, Ohio so that the City could have a head-start in remodeling facilities to meet an occupancy date of 1 September 1997 for BancOne, a major reuse tenant. This "fast track" remodeling schedule meant that significant construction and remodeling would coincide and overlap with environmental and remediation work being accomplished by the Air Force.

Original Approach

The City of Kettering set up an on-site field office to oversee and coordinate the work of several construction contractors who were demolishing facilities, installing utility lines, and remodeling structures. At the same time, an AFCEE field engineer was assigned to make weekly visits to Gentile Air Force Station to oversee AFCEE contractors accomplishing remedial investigations and actions.

Results of Original Approach

Both the City of Kettering and AFCEE contractors were working independently of each other. Construction contractors and environmental contractors were unaware of the work of the other contractors on site.

How Partnering Was Applied

Partnering instilled the concept that for the September 1, 1997 reuse schedule to be met it would be necessary for the environmental and construction contractors to talk with each other. To promote this exchange of information, a weekly field meeting was set up with representation from each contractor working at Gentile Air Force Station. The meeting was chaired by the City of Kettering site coordinator. The meeting gave the contractors the opportunity to discuss upcoming work, to identify potential areas of conflict, and to implement alternative work plans to avoid conflicts.

Savings

Intangible. However, the weekly meetings have eliminated costly mistakes, repairs and rework that would have occurred.

Overall Results

Weekly field meetings have been held for the past four months. Both environmental and construction work is on schedule. The reuse date of September 1, 1997 is realistic and on target.

GENTILE AIR FORCE STATION (DESC)
Kettering, Ohio
BUILDING 3 POLYCHLORINTED BIPHENYL (PCB) STORAGE AREA (SITE S5)

Original Conditions

Site S5 was identified during the Environmental Baseline Survey as an area requiring further investigation due to PCBs stored in this area for more than a year. As part of the Phase I Remedial Investigation/Feasibility Study (RI/FS) wipe samples were taken within the storage area. Test results from this sampling showed elevated PCB concentrations. The need to expedite the cleanup of Site S5 was required to meet the Local Redevelopment Authority's (LRA), the City of Kettering, aggressive reuse schedule that would allow for renovation of the area by a major sublessee (BancOne).

Original Approach

The original approach to cleanup a contaminated site would have been to develop a work plan, to have regulators review the work plan, to advertise and award the contract, to cleanup the site, to prepare a site closeout report.

Results of Original Approach

Typically, the original approach from work plan to site closeout would take one year.

How Partnering Was Applied

At the September 1996 BCT meeting, the need to contract locally for the cleanup of Site S5 was recommended to accelerate the cleanup and open the area for reuse. A proposal to decontaminate the area was issued on 26 September 1996 and an addendum to this proposal was completed on 11 October 1996 (incorporating regulators comments). The decontamination commenced on 16 October 1996. Verification samples were taken with a one week turn around for analytical results. The results of the site cleanup were available on 30 October 1996.

Savings

It is difficult to ascertain the savings monetarily; however, approximately 10 months were saved due to the close coordination between the BRAC Environmental Coordinator (BEC), the Contracting Officer, the U.S. EPA project manager and the Ohio EPA site coordinator.

Overall Results

By accelerating the clean up, the LRA was able to take possession of the facility and proceed with building development.

April 1999

GENTILE AIR FORCE STATION (DESC)
Kettering, Ohio
TWO DAY TURNAROUND ON UTILITY WORK PLAN APPROVAL

Original Conditions

The Local Reuse Agency, City of Kettering, was evaluating the need for work plans and the contents of these plans. The City of Kettering realized that without the installation of the utility system once the base was closed, there would be **no heat** to the buildings. A work plan for the installation of the utility system became an urgent need.

Original Approach

The original approach to the installation of the utility system would have been to develop a work plan, to have the BRAC Cleanup Team (BCT) review the work plan, to revise the plan per BCT comments, then issue a revised draft for further review and final approval.

Results of Original Approach

Typically, the original approach from work plan to an approved work plan would take 60 or more days.

How Partnering Was Applied

Partnering brought the City of Kettering and the BCT together to expedite the approval process for the utility work plans. To facilitate this approval process, the BCT met in an emergency meeting before and after the RAB meeting. Verbal agreements were reached on amendments to the work plan and the team was able to approve the plan for start of work the next day.

Savings

With the support of the BCT, the city was able to install the utility lines which provided heat for the winter. This prevented the need to hire boiler operators and to procure coal to fire up the boilers. This would have involved the costly transfer of air permits, as well as reactivation of the steam lines which were scheduled to be closed for asbestos abatement in late fall/early spring.

Overall Results

The approval of the utility work plan allowed the installation of the utility lines to be kept on schedule and before the start of the "cold weather". This helped the City of Kettering in preparing the site for development and in attracting the largest projected tenant, Banc One. Banc One represents over 2000 jobs to the community. This also allowed the Air Force project to abate the asbestos on the exposed steam lines to proceed on schedule.

April 1999

GENTILE AIR FORCE STATION (DESC)
Kettering, Ohio
ABILITY TO GET PARTIAL SITE ASSESSMENT DATA BEFORE FULL DOCUMENT RELEASE

Original Conditions

The City of Kettering needed preliminary results on investigative areas at Gentile Air Force Station which was being considered for lease by Banc One. The Phase I Remedial Investigation Report which describes the environmental condition of property would not be completed for several months. Without this information, the City of Kettering could lose Banc One as a potential lessee as well as the prosect of over 2000 jobs.

Original Approach

Under normal conditions, the Air Force would present a draft Phase I Remedial Investigation Report when all investigative studies on the site had been completed and evaluated.

Results of Original Approach

The City of Kettering would not receive preliminary results on investigative areas until the publication of the Phase I Remedial Investigation Report.

How Partnering Was Applied

Partnering identified the City of Kettering's priority for redevelopment. The Air Force agreed to release preliminary information on the investigative areas which Banc One was considering for lease.

Savings

If the City of Kettering had lost Banc One as a tenant, the City of Kettering would have lost the potential for 2000 jobs as well as the associated tax loss.

Overall Results

The early release of preliminary results on the investigative areas being considered for lease allowed a commercial Phase I Environmental Assessment to be prepared. Banc One was able to present this assessment to their funding sources. Consequently, Banc One was able to sign a lease with the City of Kettering. The lease was signed in the fall of 1996 and represents over 2000 redevelopment jobs.

April 1999

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